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DOCTORAL THESIS

The Contestation between and Coexistence of Agricultural Land Protection and Coal Seam Gas Activities in Queensland, Australia.

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The Contestation between and Coexistence of Agricultural Land Protection and Coal Seam Gas Activities in Queensland, Australia

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Faculty of Law

Professor Dan Svantesson, Professor Tina Hunter and Associate Professor Hannah Wittman

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Scholarship*

Better practices do exist and are currently being implemented in other jurisdictions. We concluded that adapting a number of these practices and incorporating them into Australian laws, subject to local need and conditions, would be appropriate.

Environmental Defenders Office, Submission No 56 to the *Select Committee on Unconventional Gas Mining*, 14 March 2016

ABSTRACT

The development of the coal seam gas industry in Queensland has created an intense public debate concerning the coexistence of agricultural land and unconventional gas (UG) extraction. This debate is particularly relevant to Queensland, which from the early 2000s onwards has dominated the UG extraction and production sector in Australia. The UG industry has thrown into sharp relief the role of the state in creating effective natural resource regulation. Namely, the interconnection between economic development, land use and conflicting interests in UG extraction and production.

This thesis is confined to an analysis of the regulatory frameworks that govern land use, compensation and access to the extraction of UG. In extracting unconventional gas resources (UGR), it is necessary for the state and private resource companies to enter into a long-term relationship. This brings challenges to other sectors which, under state law, must enter into agreements to provide access to the land under which the resource resides. This, in turn, creates tension between the private interests of commercial resource companies, private landholders and the role of the state in balancing the interests of competing sectors.

This thesis considers these challenges in Queensland, the largest and sole Australian UG producer and exporter outside of the United States and Canada, as to whether current regulation demonstrates coexistence by effectively managing conflicting interests. Where an absence of effective regulation is identified, this thesis analyses other jurisdictions to determine whether there are lessons from these jurisdictions. In particular, this thesis focuses on how British Columbia has been able to utilise legal and regulatory frameworks to encourage coexistence and develop UG resources in tandem with other sectors and to the benefit of all citizens.

This thesis explores the question; to what extent is Queensland's current regulatory framework for UGR development effective in managing conflicting land interests in the extraction of UG in Queensland?

Firstly, this thesis considers these challenges in Queensland, analysing whether UG regulation has managed competing interests and identifying that, although there has been regular reviews of legal frameworks which govern conflicting interests, Queensland's policies still lack transparency, clarity and certainty relating to the management of conflicting interests. It is

argued that the commercial focus of Queensland's UG policy prevails, encouraging exploration that privileges the interests of resource companies over those of private landholders. In contrast, an analysis of British Columbia's land use and resource policies demonstrates a different policy focus—providing greater state control over the exploitation of natural resources and balancing conflicting interests in the exploitation of UG. The tenets and policy principles underlying British Columbia's approach provide valuable lessons for Queensland, by demonstrating the need to ensure coexistence of different sectors.

An analysis of Queensland's UG regulatory regime suggests it is prescriptive, rule-based and creates unnecessary gaps and burdens on landholders. In contrast, an analysis of the legislative frameworks of another jurisdiction, namely British Columbia, indicates a principles-based legislative framework with broad enabling legislation and complementary regulatory administrative bodies, reducing regulatory burden and providing greater oversight to manage coexistence. This type of legislation encourages the protection of other land uses to meet the interests of other sectors and positions the state as an effective arbiter of multiple interests, allowing petroleum titleholders to realise economic gain without detriment to other sectors. Therefore, this analysis identifies the need for a single regulatory authority operating under a memorandum of understanding based on collaborative regulation as part of the legislative framework to encourage effective development of UGR in Queensland's agricultural regions.

The authorisation of development approvals is important for the development of UGR in Queensland. It is crucial, as it not only identifies agricultural areas that must be zoned for protection, but establishes the relationship between the state as owner of the resource, petroleum titleholders as the commercial developers of the resource and private landholders as the surface owners of the land. It is through the allocation of approvals that the interests of titleholders and landholders are aligned as closely as possible. The chosen methods of approval and land use zoning demonstrate that where a state seeks to gain economic return for its resources, while minimising impact of UG exploitation on agricultural land, the use of land use approvals for resource activities is an appropriate tool to regulate conflicting land uses. However, where a state seeks to privilege the resource sector, the land zoning system itself is inadequate.

To ensure an effective approval regime, a regulatory administrative agency body with a strong compliance approach, beyond monitoring, may align policy with overall governmental

regulation to achieve effectiveness in the approvals process for petroleum titleholders. The current process in Queensland for the approval of UG activities in priority agricultural areas encourages neither certainty nor coexistence. An analysis of British Columbia's collaborative system of land use and a single regulatory administrator demonstrates that an integrated regulatory approach meets the policy objectives of the State.

This thesis finds that, although the Queensland Government has attempted reforms to encourage greater coexistence, in practice these reforms have created greater confusion between differing legislation, lack of transparency and an onus on individual landholders to undertake costly and time-consuming legal action to prove the impact and effect of resource activity on their lands. Ultimately, the current process to determine land access and compensation agreements does not improve the position of landowners or encourage greater coexistence.

The law is correct as at 30 October 2017.

Keywords

Unconventional Gas Regulation, Coal Seam Gas, Land Use Conflict, Coexistence, Land Access, Comparative Functional Analysis

DECLARATION BY AUTHOR

This thesis is submitted to Bond University in fulfilment of the requirements of the degree of Doctor of Philosophy (Law).

This thesis represents my own original work towards this research degree and contains no material that has previously been submitted for a degree or diploma at this University or any other institution, except where due acknowledgement is made.

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RESEARCH OUTPUTS DURING CANDIDATURE

Publications

Hunter, Tina and Madeline Taylor, *Coal Seam Gas: An Annotated Bibliography* (2014)
<<http://www.parliament.qld.gov.au/Documents/TableOffice/TabledPapers/2014/5414T4733.pdf>>

van Caenegem, William, Madeline Taylor, Jen Cleary and Brenda Marshall, 'Collective Bargaining in the Agricultural Sector' (Publication No 15/055, RIRDC, June 2015)
<<https://rirdc.infoservices.com.au/items/15-055>>

Taylor, Madeline, 'Trends in Current Australian Agricultural Policy and Land Resource Management' (2015) 33 *Corporate Governance eJournal* 1

Taylor, Madeline and Susanne Taylor, 'Agriculture in a Gas Era: A Comparative Analysis of Queensland and British Columbia's Agricultural Land protection and Unconventional Gas Regimes' (2016) 22(3) *Australian Journal of Regional Studies* 459

Conference Papers and Presentations

Taylor, Madeline, 'The Co-Existence of Collective Action and Unconventional Gas Agreements' (Paper presented at IRSA World Congress, Toronto, Canada, 2016)

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TABLE OF CONTENTS

ABSTRACT	II
DECLARATION BY AUTHOR	VI
RESEARCH OUTPUTS DURING CANDIDATURE	VIII
ACKNOWLEDGEMENTS	X
TABLE OF CONTENTS	XII
ABBREVIATIONS	XVI
CHAPTER 1: INTRODUCTION AND THESIS PROBLEM	1
1.1 Introduction	1
1.2 Thesis Research Questions	6
1.3 Methodological Basis	8
1.3.1 Functional Comparative Methodology	8
1.3.2 Doctrinal Methodology	13
1.4 Thesis Context	14
1.5 Queensland's Unconventional Gas Resources	20
1.6 Competing Interests in Unconventional Gas Contexts	25
1.7 Regulatory Framework of British Columbia as a Benchmark for the Evaluation of Queensland's Regulation	26
1.8 Thesis Conceptual Underpinnings	28
1.8.1 Coexistence	28
1.8.2 Regulation	29
1.8.3 Adaptive Management	31
1.9 Limitations and Scope of Thesis	32
1.10 Thesis Structure	33
1.11 Thesis Contribution	35
CHAPTER 2: PRINCIPLES RELATING TO THE REGULATION OF UNCONVENTIONAL GAS RESOURCES	37
2.1 Introduction	37
2.2 Better Regulation as Effective Regulation	38
2.3 Rule-Based and Principles-Based Regulation Compared	41
2.4 Regulatory Tools	45
2.5 Regulatory Failures	48
2.6 Petroleum Regulation	51
2.7 Petroleum Regulation in Queensland	54
2.8 The Application of Rule-Based and Principles-Based Approaches to Petroleum Regulation	56
2.9 Environmental Regulatory Tools	63
2.9.1 Environmental Impact Assessments	63
2.9.2 Adaptive Management	66
2.9.3 Queensland's Adaptive Management Regulatory Approach	69
2.10 The Public and Private Ownership Divide and its Application to UGR	71
2.11 Conclusion	75
CHAPTER 3: UNCONVENTIONAL GAS ACTIVITIES IN AGRICULTURAL AREAS	77
3.1 Introduction	77

3.2 Commonality of Internal Systems	78
3.2.1 Law and Legal Structure	78
3.2.1.1 <i>Australia</i>	78
3.2.1.2 <i>Canada</i>	80
3.2.1.3 <i>Comparison of Legal Traditions</i>	82
3.2.2 Role of the State as Regulator of Petroleum Resources	83
3.2.3 Petroleum Property Rights	87
3.2.4 Regulatory Harmonisation in Australia	93
3.2.5 Licensing and Contractual-Based Authorisation	95
3.3 Unconventional Gas Market	98
3.4 Policy Development and Influence on Unconventional Gas Resource and Agricultural Regulation	100
3.5 Comparative Context of Australian and Canadian Unconventional Gas Policy and its Implications for Landholders	102
3.5.1 Controlled Development and Export of Unconventional Gas Resources	107
3.5.2 Australia	108
3.5.3 Canada	114
3.6 Comparative Historical Context of Australian and Canadian Agricultural Policy	116
3.6.1 State Intervention	116
3.6.2 Agricultural Land Protection	119
3.7 Sources of Conflict and Confluence of Agriculture and Petroleum Policies	126
3.8 A New Unconventional Gas Resource Policy for Queensland?	131
3.9 Conclusion	134
CHAPTER 4: REGULATING LAND USE CONFLICT	137
4.1 Introduction	137
4.2 Adaptive Management as a Regulatory Approach	138
4.3 Poor Regulatory Tool Choice	141
4.4 Legal Framework Regulating Conflicting Activities	143
4.4.1 Outline and Objective of the Land Use Zoning Systems	143
4.4.2 Importance of Land Use Zoning in the Regulation of Conflicting Activities	145
4.4.3 Legal Framework Regulating Conflicting Activities	148
4.4.4 Agencies Regulating Conflicting Land Uses in Agricultural Zones	157
4.4.4.1 <i>Protecting Priority Agricultural Land</i>	157
4.4.4.2 <i>The Agricultural Land Commission</i>	162
4.4.5 Improving Queensland's Land Use Zoning to Protect Agricultural Land	167
4.5 Petroleum Administrative Authorities in Regulatory Oversight	170
4.5.1 Comparison of Unconventional Gas Resource Oversight Agencies to Achieve Objectives	171
4.5.2 Regulatory Power	178
4.5.3 Managing Conflicting Interests	186
4.6 Exclusion as a Regulatory Tool	189
4.7 Regulating Water Use	196
4.8 Conclusion: Which System of Regulation has the Capacity to Implement Queensland's Coexistence Objectives?	206
CHAPTER 5: REGULATING LAND ACCESS CONFLICT	209
5.1 Introduction	209
5.2 Regulation of Land Access as a Tool to Managing Conflicting Interests	210
5.3 Landholder Negotiation and Compensation Agreements	213
5.3.1 Conduct and Compensation Agreements	220
5.3.2 The Land Access Code 2016 (Qld)	225

5.3.3 Conduct and Compensation in British Columbia	231
5.3.4 Right to Veto—A Real Solution?	238
5.4 Collective Bargaining as a Regulatory Tool to Manage Conflicting Interests	241
5.4.1 Competition Law	245
5.4.2 Collective Bargaining in Agriculture	249
5.4.3 Collective Bargaining in the Unconventional Gas Sector	250
5.5 New York Joint Landholders Coalition	253
5.6 Challenges and Opportunities	257
5.7 Conclusion: How will Landholder Input Create a more Effective Land Access Regime?	262
CHAPTER 6: CONCLUSION	265
6.1 Introduction, Hypothesis and Research Questions	265
6.2 Principles of Unconventional Gas Regulation	268
6.3 Managing Identified Conflicting Interests	269
6.4 Land Use Regulation	271
6.5 Regulating Land Access and Compensation	272
6.6 A New Way Forward for Queensland Landholders	273
6.7 Conclusion	274
BIBLIOGRAPHY	277

ABBREVIATIONS

ABARES	Agricultural and Resource Economics and Scientists
ac	acres
ACC	Agriculture Consultative Committee
ACCC	Australian Competition and Consumer Commission
ADGSM	Australian Domestic Gas Security Mechanism
ADR	Alternative Dispute Resolution
AEMO	Australian Energy Market Operator
ALC	Agricultural Land Commission
ALCA	<i>Agricultural Land Commission Act</i> , SBC 2002, c 36
ALR	Agricultural Land Reserve
APLNG	Australia Pacific Liquefied Natural Gas
CAPL	Canadian Association of Petroleum Landmen
CCA	Conduct and Compensation Agreement
CSG	Coal Seam Gas
DEEDI	Department of Employment, Economic Development and Innovation
DILGP	Department of Infrastructure, Local Government and Planning
EA	Environmental Authority
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EPA	<i>Environmental Protection Act 1994</i> (Qld)
EPBCA	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth)
EPMR	Environmental Protection and Management Regulation
GAB	Great Artesian Basin
GC	Gasfields Commission
GCA	<i>Gasfields Commission Act 2013</i> (Qld)

GL/y	gigalitres per year
ha	hectares
IEA	International Energy Agency
JLCNY	Joint Landowners Coalition of New York
km	kilometres
LAC	<i>Land Access Code 2016 (Qld)</i>
LAF	Land Access Framework
LNG	Liquefied Natural Gas
MERCPA	<i>Mineral and Energy Resources (Common Provisions) Act 2014 (Qld)</i>
MLUF	Multiple Land Use Framework
MNES	Matters of Environmental Significance
MOU	Memorandum of Understanding
MRA Act	<i>Mineral Resources Act 1989 (Qld)</i>
NEB	National Energy Board
NFF	National Farmers Federation
OECD	Organisation for Economic Co-operation and Development
OGAA	<i>Oil and Gas Activities Act, SBC 2008, c 36</i>
OGC	Oil and Gas Commission
OGIA	Officer of Groundwater Impact Assessment
PA Act	<i>Petroleum Act 1923 (Qld)</i>
PAA	Priority Agricultural Area
PC	Productivity Commission
PGPSA	<i>Petroleum and Gas Production and Safety Act 2004 (Qld)</i>
PLA	Priority Living Area
PNGA	<i>Petroleum and Natural Gas Act, RSBC 1996, c 361</i>
PRRD	Peace River Regional District
QCLNG	Queensland Curtis LNG

QGC	Queensland Gas Company
RAH	Resource Authority Holder
RFT	Request for Tender
RIDA	Regional Interests Development Approval
RPI Reg	<i>Regional Planning Interests Regulation 2014</i> (Qld)
RPIA	<i>Regional Planning Interests Act 2014</i> (Qld)
SDPWO Act	<i>State Development and Public Works Organisation Act 1971</i> (Qld)
SCA	Strategic Cropping Area
SCER	Standing Council of Energy and Resources
SCL Act	<i>Strategic Cropping Land Act (2011)</i> (Qld)
SRB	Surface Rights Board
Tcf	Trillion cubic feet
UG	unconventional gas
UGR	unconventional gas resource
UK	United Kingdom
US	United States
WA	<i>Water Act 2000</i> (Qld)

CHAPTER 1: INTRODUCTION AND THESIS PROBLEM

1.1 Introduction

Australia has a pressing need for gas. Decades of reliance on dwindling Bass Strait resources combined with unconventional gas resource (UGR) development for export markets has resulted in a severe gas shortage in eastern Australia, requiring unprecedented government intervention to ensure security of supply.¹ Yet, at the same time, Australia will shortly overtake Qatar as the world's biggest gas exporter as exports of coal seam gas (CSG) on the East Coast and conventional gas on the West Coast significantly increase.² Despite these large exports, the Australian East Coast is facing a gas shortage.³ To address the domestic shortage, the Australian Government has negotiated an agreement with its largest UGR corporates, Santos, Origin and Shell, to fill domestic needs without Government regulation of export limits and diverting export UGR supply from Queensland into the local market.⁴

In early 2017, the Australian Government signalled a major policy shift in domestic energy to a renewed focus on energy security—a departure from the fossil fuel ‘extract and export’ mantra of previous administrations. In a speech at the National Press Club, Prime Minister Malcolm Turnbull declared that increasing Australian energy supplies from UGR, primarily CSG at present, is vital for the nation's energy future.⁵ He highlighted the need to overcome the barrier of state moratoriums of hydraulic fracturing (or ‘fracking’) in Victoria, the Northern Territory and Tasmania to develop onshore unconventional gas (UG) basins: ‘now,

¹ Australian Competition and Consumer Commission (Cth), *Gas Inquiry 2017–2020. Interim Report* (September 2017) <<https://www.accc.gov.au/system/files/Gas%20Inquiry%20-%20Interim%20Report%20-%20September%202017.pdf>>.

² By 2018, Queensland could be the world's fourth largest LNG exporter and, by the end of the decade, Australia has the potential to be the world's leading LNG exporter (Curtis Pitt, *\$60 Billion Industry Passes Another Milestone* (Media Statement, 30 June 2016) <<http://statements.qld.gov.au/Statement/2016/6/30/60-billion-industry-passes-another-milestone>>.

³ Rod Sims, ‘Shining a Light: Australia's Gas and Electricity Affordability Problem’ (Address to National Press Club, 20 September 2017) <<https://www.accc.gov.au/speech/shining-a-light-australia%E2%80%99s-gas-and-electricity-affordability-problem>>. Note that Western Australia has a long-standing domestic gas reservation policy (‘DomGas Reservation’) that requires 15% percentage of all gas produced or landed in Western Australia to be reserved for domestic consumption (Department of Treasury (WA), *Production* (2017) <<http://www.treasury.wa.gov.au/Public-Utilities-Office/Gas-industry/Production/>>).

⁴ Prime Minister of Australia the Honourable Malcolm Turnbull MP, *National Energy Guarantee to Deliver Affordable, Reliable Electricity* (Media Release, 17 October 2017) <<https://www.pm.gov.au/media/2017-10-17/national-energy-guarantee-deliver-affordable-reliable-electricity>>.

⁵ Phillip Coorey, ‘Malcolm Turnbull says Coal, CSG and Renewables Vital for Energy Future’, *The Australian Financial Review* (Online), 1 February 2017 <<http://www.afr.com/news/malcolm-turnbull-says-coal-csg-and-renewables-vital-for-energy-future-20170131-gu2q40>>.

we're willing to sit down with the states to determine the right incentives to enable desperately-needed, sustainable onshore gas development'.⁶

Given the constitutional constraints on federal control over onshore gas extraction, the federal government will need to work closely with state and territory governments to review their current respective legislative positions on CSG to achieve its objective of energy security from CSG. In Victoria, Northern Territory and Tasmania, state governments have reacted to public perceptions of environmental damage and water contamination relating to the extraction of CSG by either banning or placing moratoriums on hydraulic fracturing—a serious impediment to developing deeper CSG reserves 300 to 1,000 metres below the freshwater zones.⁷

The depth of public sentiment in Victoria, particularly from farming communities, led the state government to permanently ban hydraulic fracturing as a CSG extraction technique in 2017.⁸ As such, only Queensland is currently undertaking the commercial exploitation of UGR, though this is confined to CSG at present. Although currently only 20–40% of CSG wells must be fracked to access UG,⁹ CSG has become synonymous with a threat to valuable farming land. This threat is partly due to the need to dewater coal seams to produce the UG and the subsequent depletion of aquifers and high level of water pollution resulting from such dewatering. Consequently, public sentiment and opposition to CSG is highly divisive in regional areas where the industry has been vilified for its practices in developing CSG on farming lands.

⁶ Ibid.

⁷ Ching H Yew and Xiaowei Weng, *Mechanics of Hydraulic Fracturing* (Gulf Professional Publishing, 2014).

⁸ See the *Resources Legislation Amendment (Fracking Ban) Act 2017* (Vic) pt 1 s1:

The main purposes of this Act are—

- (a) to amend the *Mineral Resources (Sustainable Development) Act 1990*—
 - (i) to prevent the exploration for and mining of coal seam gas; and
 - (ii) to ban hydraulic fracturing; and
 - (iii) to enable the Minister to pay for the surrender of certain mining licences, exploration licences and retention licences for coal seam gas; and
- (b) to amend the *Petroleum Act 1998*—
 - (i) to ban hydraulic fracturing; and
 - (ii) to impose a moratorium on petroleum exploration and petroleum production in the onshore areas of Victoria until 30 June 2020; and
 - (iii) to enable the Minister to pay for the surrender of certain exploration permits, retention leases and production licences; and
- (c) to make consequential amendments to the *Resources Legislation Amendment (BTEX Prohibition and Other Matters) Act 2014* to repeal provisions that will be made redundant by this Act.

⁹ Catriona Ross and Paige Darby, 'Unconventional Gas: Coal Seam Gas and Tight Gas' (Research Paper No 2, Parliamentary Library, Victoria, December 2013) <<https://www.parliament.vic.gov.au/publications/research-papers/send/36-research-papers/13717-unconventional-gas-paper-final>>.

Queensland has not enacted a moratorium on fracking and has been the only active state to develop its unconventional petroleum resources (exclusively CSG). Due to the nature of the geology, such CSG development has occurred in sedimentary basins in Queensland's agricultural regions where farming has been the dominant economic land use since federation. This is the primary conundrum for Queensland's agricultural areas; CSG extraction is incredibly lucrative and an election winner. Since 2010, the CSG industry has directly contributed A\$10.6 billion to Queensland's economy.¹⁰ The Surat Basin and the southern Bowen Basin in Queensland contain projected CSG well numbers of 15,000 to 40,000, equating to 150 years of active CSG production.¹¹

Over the past decade, Queensland has continued to transition from a conventional resource state to embracing the unconventional natural gas sector both for its domestic gas and electricity supply and to export Liquefied Natural Gas (LNG). LNG is UG, including CSG, that has been cooled and converted to liquid for storage and transportation by converting its volume to 1/600th at -161°C.¹²

The focus on LNG has morphed into a focus on the gas export market, leading to a domestic gas shortage.¹³ This shift in focus is reflected in the Queensland Government's recent policy strategy of focusing on LNG exports to Asia with the first LNG export terminal in Queensland opening in 2015.¹⁴ As highlighted by Senator Canavan, Minister for Resources and Northern Australia, in 2016:

Forecasts estimate the value of Australia's LNG exports will increase by 41 per cent to \$23 billion in 2016–17, supported by higher LNG prices and export volumes...The Australian Government will continue to put in place policies that drive our prosperity and encourage ongoing investment and jobs growth in this sector.¹⁵

¹⁰ Senator Matthew Canavan, 'Queensland's LNG Sector Driving Investment and Jobs' (Media Release, 10 October 2016) <http://www.mattcanavan.com.au/queensland_s_lng_sector_driving_investment_and_jobs>.

¹¹ Oswald Marinoni and Juan Navarro Garcia, 'A Novel Model to Estimate the Impact of Coal Seam Gas Extraction on Agro-Economic Returns' (2016) 59 *Land Use Policy* 351.

¹² Philippe A Charlez, *Our Energy Future Is Not Set In Stone: How Can The Demand For Oil And Gas In 2035 Be Met?* (TECHNIP, 2014) 106.

¹³ Australian Energy Market Operator, 'National Gas Forecasting Report for Eastern and South-Eastern Australia' (8 December 2016) <https://www.aemo.com.au/-/media/Files/Gas/National_Planning_and_Forecasting/NGFR/2016/2016-National-Gas-Forecasting-Report-NGFR-Final.pdf>.

¹⁴ The 'unconventional natural gases' comprise sources of methane which include shale gas, CSG (also known as coal-bed methane) and 'tight gas' trapped in rock formations. The scope of this thesis is limited to a legal analysis of CSG in Queensland and shale gas in British Columbia, Canada.

¹⁵ Canavan, above n 10.

Despite the Queensland Government's support for the industry, conflicts between agriculture and CSG have become apparent in some of Australia's most productive farming areas, including the Darling Downs in Queensland,¹⁶ and threaten the exceptionally fertile Liverpool Plains in New South Wales.¹⁷ The Darling Downs region, situated over the large reserves of CSG in the Surat Basin, is 'one of Queensland's most important agricultural assets'.¹⁸ It comprises 11% of Queensland's area and produces around a quarter of Queensland's agricultural output.¹⁹ The landholders of the Darling Downs produce 88.1% of egg production, 65% of total cotton value, 95.7% of pome fruit value, 66.6% of grain sorghum production, 48.2% of wheat production and 64.5% of pig production.²⁰

According to Measham and Fleming, 'The development of [Australian] unconventional gas has been described as having more potential to change local economies and social relations in rural areas than any other phenomenon in recent history'.²¹ Overall, in Queensland, the agricultural sector represents an estimated 30,500 business contributing nearly A\$20 billion in 2016–2017 to the State's economy— 20% greater than the agricultural sector average of Queensland since 2011.²² Traditionally, agriculture has been a mainstay of Queensland's economy since its colonisation by the British Crown until deregulation in 1980s during the period of tariff protection and market regulation.²³ The advent of market-led economic

¹⁶ Kim de Rijke, 'The Agri-Gas Fields of Australia: Black Soil, Food, and Unconventional Gas' (2013) 35(1) *Culture, Agriculture, Food and the Environment* 41; Department of Industry, Innovation and Science (Cth), Office of the Chief Economist, *Review of the Socioeconomic Impacts of Coal Seam Gas in Queensland* (Commonwealth of Australia, 2015) <<https://industry.gov.au/Office-of-the-Chief-Economist/Publications/Documents/coal-seam-gas/Socioeconomic-impacts-of-coal-seam-gas-in-Queensland.pdf>>.

¹⁷ NSW Government, Chief Scientist and Engineer, *Final Report of the Independent Review of Coal Seam Gas Activities in NSW* (2014) <http://www.chiefscientist.nsw.gov.au/__data/assets/pdf_file/0005/56912/140930-CSG-Final-Report.pdf>.

¹⁸ Queensland Government, Department of State Development, Infrastructure and Planning, '<Darling Downs Regional Plan' (October 2013) <http://www.statedevelopment.qld.gov.au/resources/plan/darling-downs/darling-downs-regional-plan.pdf>>.

¹⁹ *Ibid.*, 3.

²⁰ AEC Group, *Analysis of Agricultural Production and Issues in the Darling Downs: Surat Gas Project Supplementary Report to the Environmental Impact Statement Report prepared for Arrow Energy Pty Ltd and Coffey Environments Australia Pty Ltd* (2013) <https://www.arrowenergy.com.au/__data/assets/pdf_file/0003/8670/Appendix_14.pdf> 5.

²¹ Thomas G. Measham and David Fleming, 'Impacts of unconventional gas development on rural community decline' (Working Paper, Ecosystem Sciences and Minerals Down Under Flagship, CSIRO, November 2013) 5.

²² Queensland Government, Business Queensland, The Queensland Cabinet and Ministerial Directory, Minister for Agriculture and Fisheries and Minister for Rural Economic Development the Hon. Bill Byrne, *Queensland's Agricultural Sector Closes In On \$20 Billion Mark* (September 28 2017) <<http://statements.qld.gov.au/Statement/2017/9/28/queenslands-agricultural-sector-closes-in-on-20-billion-mark>>.

²³ See Australian Government, Productivity Commission, *Regulation of Australian Agriculture* (2016) <<https://www.pc.gov.au/inquiries/completed/agriculture/report/agriculture.pdf>> for an outlook on the minimal regulation remaining in Australia's agricultural sector>.

policies and deregulation has witnessed a decline in the role of agriculture as the State's dominant economic sector in favour of other competing interests, including resources which frequently lie underneath fertile farmland.

The economic opportunities for Queensland in this sector are conservatively estimated at generating A\$3.8 million in royalties and federal petroleum resource rent tax and A\$4.9 million in company taxes for each LNG export tanker.²⁴ It is estimated 360 LNG tankers will leave Gladstone per annum. Consequently, the policy stance by the state and federal government is to reconsider how CSG extraction might be made safe, environmentally responsible and, above all, sensitive to the needs and requirements of property owners in rural regions affected by CSG extraction.²⁵ This is particularly true for Queensland, which has already enthusiastically embraced CSG, but has also created an alliance of landowners and environmentalists who believe the regulatory framework to protect rural landowners requires review.

The relationship between CSG and agricultural activity in Queensland and the possibility of further development in other states and territories has raised concerns about the impact of CSG particularly and UG development on farmland generally.²⁶ The main concerns include the impact on food production, the use and contamination of underground and surface water resources, agricultural landholders' rights over land, the effects on the socio-economic environment in the affected regions and the future viability of farming in these areas.²⁷

The rapid development of the current UGR framework in Queensland since 2004 has led the Queensland Government to a regulatory 'crossroads'.²⁸ The state must effectively regulate the development of UGR in a manner that addressees conflicting issues arising from UGR development in predominantly agricultural areas. This provides the platform to examine the regulatory tools utilised by Queensland and other comparative jurisdictions to establish a framework to maximise opportunities for the coexistence of CSG and agricultural land.

²⁴ Natural CSG, *Economic Benefits* (2017) < <http://www.naturalcsg.com.au/benefits/economic-benefits/>>.

²⁵ For a detailed outline of the impacts of CSG extraction on agricultural farmland see Chapter three.

²⁶ Neil I. Huth, Brett Cocks, Neal Dalglish, Perry L. Poulton, Oswald Marinoni, Javier Navarro Garcia, *Farmer's perceptions of coexistence between agriculture and large scale coal seam gas development* (2014) <<https://gisera.org.au/wp-content/uploads/2016/04/ag-proj-2-farmer-perception-workingpaper.pdf>>; Amanda Kennedy, *Environmental Justice and Land Use Conflict: The Governance Of Mineral And Gas Resource development* (Routledge, 2017).

²⁷ Australian Government, *Office of the Chief Economist, Review of the Socioeconomic Impacts of Coal Seam Gas in Queensland* (2016) <<https://industry.gov.au/Office-of-the-Chief-Economist/Publications/Documents/coal-seam-gas/Socioeconomic-impacts-of-coal-seam-gas-in-Queensland.pdf>>.

²⁸ Tony Wood, *Gas at the Crossroads Australia's Hard Choice* (2014) Grattan Institute <<https://grattan.edu.au/wp-content/uploads/2014/10/817-gas-at-the-crossroads.pdf>>.

The suite of newly enacted primary legislation concerning, among other regulatory issues, UGR activities on agricultural land over the past four years—namely, in the introduction of the *Regional Planning Interests Act 2014* (Qld) (RPIA), *Mineral and Energy Resources (Common Provisions) Act 2014* (Qld) (MERCPA) and *Land Access Code 2016* (Qld) (LAC)—may be evidence of regulatory gaps identified by the Queensland Government and a continued attempt to create more effective regulation to address a complex multitude of concerns. This thesis will examine these newly enacted legislative instruments, identify their effectiveness and consider whether alternative regulatory tools exist to potentially aid in creating an effective land use and land access regulatory framework to manage conflicting interests.

1.2 Thesis Research Questions

The hypothesis of this thesis is that there are aspects of Queensland's current regulatory framework for UGR development that are ineffective in managing conflicting land interests in the extraction of UG and that a more effective regime could be identified. To address this hypothesis, this study addresses a fundamental question: to what extent is Queensland's current regulatory framework for CSG extraction effective in managing conflicting land interests? To answer this research question, which underlies the hypothesis, there are five sub-questions to be answered:

- 1) What are the land use conflicts associated with UG extraction on agricultural land?
- 2) What is the current regulatory framework for the regulation of UG extraction in Queensland?
- 3) Are the current regulatory tools utilised by Queensland effective in managing conflicting land interests in the development of UGR?
- 4) Are there alternative regulatory tools effective in managing these conflicts of interest?
- 5) Could these regulatory tools be applied to Queensland?

To test the hypothesis, research question and research sub-questions of this thesis, a number of fundamental legal tools²⁹ are examined within the two aspects of conflict in land use.

²⁹ The 'Regulatory Toolbox', applied to a functional legal methodology, is referred to where regulation occurs through the combination of a number of differing tools and methods, rather than relying upon a single instrument. Brownen Morgan and Karen Yeung, *An Introduction to Law and Regulation: Text and Materials* (Cambridge University Press, 2007) 9; Arie Freiberg, *Regulation in Australia* (2017, The Federation Press).

First, the coexistence of agriculture and CSG extraction and the capacity of the landholder to gain effective compensation and control over their land during such extraction activities (known in Queensland as Conduct and Compensation Agreements (CCAs)) are examined. To achieve this, this thesis analyses the existing regulatory framework in Queensland for coexistence of CSG and agriculture, and the rights for landholders regarding access and compensation during CSG activities.

Second, the analysis of the existing Queensland regulatory framework will be undertaken by an examination of the law itself in relation to good regulatory practice and through a comparative study with British Columbia, Canada, to identify new ways for farming and UGR extraction to coexist. Given that there is a study of both the Queensland law itself and that of British Columbia, it is also necessary to examine key regulatory and governance concepts and theories including adaptive management and principles-based regulation.

Third, Queensland's regulatory framework is unique in that, at the commencement of CSG extraction in the early 2000s, there was an active choice to utilise the environmental management theory of adaptive management as a regulatory tool to address the regulatory issues arising from CSG extraction. Therefore, the environmental management concept of adaptive management necessarily features in the assessment of the Queensland regulatory framework.

Where this analysis identifies regulatory burden, gaps and weaknesses in Queensland's regulatory framework for UGR land use and land access, this thesis will consider whether there are more effective regulatory tools that may be utilised to address issues of coexistence. This will include a compare, contrast and assessment exercise to assess the effectiveness of Queensland's regulatory framework with the UGR regulatory framework of British Columbia in particular.³⁰ The comparative functional analysis of other UGR regulatory frameworks and comparing similar regulatory issues of land access and land use may provide opportunities in Queensland's UGR regulation to achieve more effective management of conflicting land interests in the extraction of UGR.

³⁰ Although, where appropriate this thesis considers other regulatory jurisdictions. The relevant comparative example of the United States will be analysed in the context of Collective Bargaining in Chapter Five.

1.3 Methodological Basis

1.3.1 Functional Comparative Methodology

This thesis does not aim to discuss in comprehensive detail all the legal questions pertaining to Queensland's petroleum regulation. Rather, this thesis will analyse the functioning of regulation and the possible legal tools that may be utilised to achieve effective regulation of conflicting interests in the UGR sector. This analysis will be primarily based on a functional comparative methodology, using different alternative models and tools of regulation in other jurisdictions as a contextual background and benchmark for analysis.³¹

The comparison of two similar legal regimes is of fundamental importance to the theoretical perspective and methodology of this thesis. To have utility for this thesis, the methodological framework must address the multiple dimensions of coexistence and examine aspects of natural resource regulation such as petroleum licensing obligations and compensation procedures for agricultural landholders.

Zweigert postulated a methodological approach in 1971 premised on the fact that 'The basic methodological principle of all comparative law is that of functionality'.³² The functionalist method is one of the best-known working tools in comparative law, having become both the mantra and *bête noire* of the comparative law discipline.³³ Functionalism can be defined as 'law that responds to human needs and therefore all rules and institutions have the purpose of answering these needs'.³⁴ The problem-solving method as a technique of the functionalist approach is applied in this thesis and asks the question, 'How is a specific social or legal problem, encountered in both society A and society B, resolved?' That is, 'Which legal or other institutions cope with this problem?'³⁵

³¹ Arie Freiberg, *Regulation in Australia* (2017, The Federation Press).

³² Konrad Zweigert, 'Methodological Problems in Comparative Law' (1972) 7 *Israel Law Review* 465; Konrad Zweigert and Hein Kötz, *An Introduction to Comparative Law* (Clarendon Press, 3rd ed, 1998) 34.

³³ Ralf Michaels, 'The Functional Method of Comparative Law' in Reinhard Zimmermann and Mathias Reimann (eds), *The Oxford Handbook of Comparative Law* (Oxford University Press, 2006) 340.

³⁴ Esin Örüçü, *The Enigma of Comparative Law: Variations on a Theme for the Twenty-first Century* (Springer, 2013) 28.

³⁵ *Ibid*, 25.

Functionalist comparatists agree the following elements are necessary in expropriating a functionalist comparative law methodology:

- 1) Functionalist comparative law is factual and so focuses on the effects of rules, not purely on doctrinal structures
- 2) The objects of examination are legal systems compared by considering their various regulatory responses to similar situations
- 3) Functionalist comparative law combined this factual approach with the theory that its objects must be understood in light of their functional operation in the jurisdiction in which it operates
- 4) Institutions both legal and non-legal are comparable if they are functionally equivalent in different legal systems, even if the institutions are doctrinally different
- 5) Functionality can serve as an evaluative criterion for legal jurisdictions facing similar challenges.³⁶

This approach springs from the disposition that legal problems have similar solutions across comparable legal systems, though reached by different routes. It is acknowledged by legal comparative scholars that ‘the fact that the problem is one and the same warrants the comparability’.³⁷ However, this thesis employs the comparative law ‘functional equivalence’ in which the enquiry is, ‘Which institution in system B performs an equivalent function to the one under survey in system A?’ In answering this question, the concept of ‘functional equivalence’ emerges’.³⁸

The exploratory nature of this legal thesis provides a functionalist legal approach. The basis of this approach is to examine the differences and commonalities between legal systems to better integrate policy with regulatory analysis—‘In this way, researchers can draw on sociological,

³⁶ Michele Graziadei, ‘The Functional Heritage’, in Pierre Legrand and Roderick Munday (eds), *Comparative Legal Studies: Traditions and Transitions* (Cambridge University Press, 2003) 100; Hugh Collins, ‘Methods and Aims of Comparative Contract Law’, (1989) 11 *Oxford Journal of Legal Studies* 396; Vernon Valentine Palmer, ‘From Lerrotholi to Lando: Some Examples of Comparative Law Methodology’ (2005) 53(1) *The American Journal of Comparative Law* 261.

³⁷ Esin Örüçü, ‘Methodology of Comparative Law’ in Jan Smits (ed), *Elgar Encyclopaedia of Comparative Law* (2012, Edward Elgar, 2nd ed) 442, 443.

³⁸ Maurice Adams and Jacco Bomhoff, ‘Privileging (some forms of) interdisciplinarity and interpretation: Methods in comparative law’ (2014) 12(3) *International Journal of Constitutional Law* 786; Jan Smits (ed), *Elgar Encyclopaedia of Comparative Law* (2012, Edward Elgar, 2nd ed).

economic, historical, political, religious, psychological and linguistic theories to help explain their findings'.³⁹

Adams and Griffiths define the following three steps in comparative methodology:

- (a) The legal norms (broadly understood) concerned and how they have changed in recent years, (b) their social effects, and (c) explanations for the similarities and differences of the norms and their effects in different jurisdictions.⁴⁰

Given the complexity and explanatory challenges of this thesis, no comprehensive general methodology theory fully explains the contours of natural resource regulation. Thus, similar legal problems in jurisdictions with similar legal institutions that are naturally or functionally comparable,⁴¹ as 'like must be compared with the like' (*similia similibus*) as the objects of comparison share common characteristics, serve as the common denominator (the *tertium comparationis*).⁴²

The functional comparability of this thesis lies in the comparison between the RPIA and Agricultural Land Reserve (ALR) systems in Queensland and British Columbia respectively. Both the RPIA and ALR represent land use zoning systems and institutions in a comparable Commonwealth legal environment that seeks to regulate onshore petroleum extraction and protect prime agricultural land, representing its functional comparability.⁴³

According to Örüçü, the underlying assumption for this methodology is that there are 'shared problems or needs in all the societies under comparison, that they are met somewhere in the society and that the means of solving these problems may be different but comparable, their functions being equivalent'.⁴⁴ Further, Zweigert and Kötz state comparable legal problems and institutions may only be compared effectively if they solve the same factual problem.⁴⁵ In both Queensland and British Columbia, the contestation between arable agricultural land use, UG activities and the resulting effect on agricultural landholders and laws is evidence of the central problem analysed in this thesis.

³⁹ Koen Lemmens, 'Comparative Law as an act of Modesty: A pragmatic and realistic approach to comparative legal scholarship' In Maurice Adams, Jacco Bomhoff (eds), *Practice and Theory in Comparative Law* 302,323.

⁴⁰ Maurice Adams and Jacco Bombhoff, *Practice and Theory in Comparative Law* (Cambridge University Press, 2012), 282.

⁴¹ Konrad Zweigert and Hein Kötz, *An Introduction to Comparative Law* (Clarendon Press, 3rd ed, 1998), 34.

⁴² Esin Örüçü, *Comparability: Theories and Presumptions* (Springer, 2004), 19.

⁴³ Michaels, above n 33, 22.

⁴⁴ Esin Örüçü, *Comparability: Theories and Presumptions* (Springer, 2004) 562.

⁴⁵ Zweigert and Kötz, above n 41.

The problem the law addresses and regulation it provides for ‘dealing with these problems are always embedded in a particular social and institutional context’.⁴⁶ Regulation is the first layer of analysis in this thesis. However, without taking account of historical, institutional, political, cultural and social environments, the meaning of legislation cannot be understood.⁴⁷ The second and third layers of comparison in this thesis are concerned specifically with the agricultural land protection and UG regimes of Queensland and British Columbia and their socio-cultural context.

Örücü states:

For those concerned with law in action and law in interaction with social and cultural systems, however, rule-based research is not satisfactory since it may lead to only partial truth and a misleading picture. Creative comparative law research, therefore, may be interested in suggesting ‘core concepts’ and point the way to ‘ideal systems’, or at least to the ‘better law’ approach.⁴⁸

The comparative analysis of this thesis is confined to analysing how British Columbia manages the contestation of UG petroleum tenements and agricultural land protection to encourage effective regulation of its UGR. Analysing these regulations provides valuable lessons for the adaptive management of CSG on agricultural land in Queensland. By providing a regulatory analysis of one jurisdiction, addressing the same fundamental legal question of UG and agricultural land preservation, this thesis provides a more enriched and comprehensive examination, rather than a more superficial analysis of multiple jurisdictions.

British Columbia’s UGR regulatory system has been selected as the comparative jurisdiction and regulation of this thesis, as it offers valuable insight into possible strategies and practices in regulating prime agricultural land and petroleum activities.⁴⁹ Canada is the world’s fifth-largest producer of natural gas with a total shale resource estimate of 6.3 1012m3 (222 Tcf),⁵⁰ with Alberta currently accounting for 80% of Canada’s existing natural gas production.⁵¹ However, British Columbia is also poised become one of the country’s largest UGR

⁴⁶ Maurice Adams, Jacco Bomhoff, *Practice and Theory in Comparative Law* (Cambridge University Press, 2012) 293.

⁴⁷ Jan M. Smits, *Elgar Encyclopaedia of Comparative Law* (Edward Elgar, 2nd ed, 2012).

⁴⁸ Örücü, above n 44, 571.

⁴⁹ Diane Katz, *Studies in Risk & Regulation: The BC Agricultural Land Reserve: A Critical Assessment* (The Fraser Institute, 2009).

⁵⁰ National Energy Board, *Canada’s Energy Future 2016* <<https://www.neb-one.gc.ca/nrg/ntgrtd/fttr/2016/2016nrgftr-eng.pdf>> 61.

⁵¹ Allan Ingelson, ‘Strategic Planning for Energy Development in Canada’ (2015) 6(2) *Journal of Energy and Environmental Law* 35.

producers and exporters, with an estimated 1,237 trillion cubic feet (Tcf) of UG and 335 Tcf of risked technically recoverable reserves.⁵² Further, British Columbia was one of the first jurisdictions in North America to implement large-scale agricultural land zoning and is considered one of the most established examples of public control over development and subdivision of land for non-farm uses since the creation of its ALR in 1973.⁵³

This does not mean that British Columbia's system offers a one-size-fits-all model for UGR regulation.⁵⁴ Rather, a comparison with British Columbia suggests that some aspects of its regulatory regime encourage effective regulation throughout the land use and land access process. These aspects include flexible principles-based regulation, transparent and accountable bureaucracy and collaborative and coordinated state policy.⁵⁵

By using a comparative functional approach, it is possible to compare the regulation of land use and land access of UGR activities on agricultural land to ascertain the capacity of each regulatory framework to effectively promote coexistence between two sectors, but with starkly different regulations and policy outcomes. According to Adams:

It is especially when foreign legal systems and circumstances seem familiar and even self-evident that the comparative researcher can be lead to draw 'obvious' but in fact superficial or misleading conclusions as far as similarities and differences are concerned.⁵⁶

Both jurisdictions have responded to the regulatory challenges of UGR coexistence with agriculture by using the same regulatory tools, including an agricultural land protection and zoning approval system framework and land access compensation agreements within a general UGR regulatory framework. However, both states have used different approaches to apply these regulatory tools and this thesis analyses how these tools have been applied to encourage effective regulation of UGR activities on agricultural land.

⁵² Silke Popp, 'Unconventional Gas Regulation in Canada' (2014) 12(3) *Oil, Gas and Energy Law Intelligence* 1.

⁵³ Michael Krauss, 'The Perils of Rural Land Use Planning: The Case of Canada' (1991) 23(1) *Case Western Reserve Journal of International Law* 65.

⁵⁴ It is important to realise that British Columbia does not necessarily provide an example of the 'best' agricultural protection regulation. Rather, British Columbia provides an example of a successful system which promotes principles-based regulation.

⁵⁵ OECD, *Principles for the Governance of Regulators* (21 June 2013). These principles will be explored within Chapters four and five of this thesis.

⁵⁶ Maurice Adams, 'Doing what doesn't come naturally. On the distinctiveness of comparative legal Research' in Mark van Van Hoecke (Ed), *Methodologies of legal research. Which kind of method for what kind of discipline?* (Hart Publishing, 2011) 229, 230.

1.3.2 Doctrinal Methodology

The doctrinal study of law is understood as a discipline that produces information about the law and systematises legal norms.⁵⁷ The doctrinal method lies at the basis of the common law and is the core legal research method. According to Hutchinson and Duncan:

A doctrine has been defined as [a] synthesis of various rules, principles, norms, interpretive guidelines and values. It explains, makes coherent or justifies a segment of the law as part of a larger system of law. Doctrines can be more or less abstract, binding or non-binding.⁵⁸

It follows that doctrinal research is research into the law and legal concepts. This method of research was the dominant influence in nineteenth and twentieth century views of law and legal scholarship, and still tends to dominate legal research design.⁵⁹ Theoretical doctrinal studies analyses, on a conceptual level creates, linkages that constitute personal relationships becoming legal relationships and, further, legal statutes and institutions. Legal relationships, therefore, form the framework of the pre-understanding that guides interpretation and this framework can include an implicit ‘picture of society’.⁶⁰

Doctrinal law scholarship is employed in this thesis to analyse legal normative sources in Queensland—such as statutory texts, treaties, general principles of law, customary law, binding precedents and authoritative sources such as case law and scholarly legal writings—and perform an analysis of these texts.⁶¹ This thesis will execute doctrinal evaluative scholarship, defined as:

Providing an assessment of the way the [legal] world is, and, either implicitly or explicitly, subjecting the law to appraisal either from the point of view of coherence with earlier law, other areas of law, or from an external viewpoint, and where shortfalls are identified, suggesting how things might be improved.⁶²

⁵⁷ Aulis Aarnio, ‘What is the Doctrinal Study of Law?’ in Aleksander Peczenik, *On Law and Reason* (Springer, 1989) 19.

⁵⁸ Terry Hutchinson and Nigel Duncan, ‘Defining and describing what we do: doctrinal legal research’ (2012) 17(1) *Deakin Law Review* 83, 84.

⁵⁹ Desmond Manderson and Richard Mohr, ‘From Oxymoron to Intersection: An Epidemiology of Legal Research’ (2002) 6(1) *Law Text Culture* 159, 161; Desmond Manderson, ‘Law: The Search for Community’ in Simon Marginson (ed), *Investing in Social Capital* (University of Queensland Press, 2002) 15.

⁶⁰ Aulis Aarnio, ‘Essays on the Doctrinal Study of Law’ (2011) 96 *Law and Philosophy Library* 20.

⁶¹ *Ibid*, 20, 23.

⁶² Tamara Hervey, Robert Cryer, Bal Sokhi-Bulley, Alexandra Bohm, *Research Methodologies in EU and International Law* (Hart Publishing, 2011) 9.

Traditional doctrinal models of legal research need to be supplemented by methodologies used in other disciplines, particularly social research methods.⁶³ As stated by McCrudden, 'law is not a datum; it is in constant evolution, developing in ways that are sometimes startling and endlessly inventive'.⁶⁴ The law exists in, is developed through and reflects the society it arises from and seeks to shape and improve it. Law is a social practice, as law and society are deeply entwined. This thesis observes 'law in action', as opposed to 'law in the books',⁶⁵ and the way the law and legal institutions contribute to regulation of UGR.

Doctrine is defined as 'a synthesis of rules, principles, and norms, interpretive guidelines and values. It explains, makes coherent or justified a segment of the law as part of a large system of law. Doctrines can be abstract binding or non-binding'.⁶⁶ The doctrines analysed in this thesis are limited to the rules, principles and tools related to UGR development in Queensland and British Columbia. Utilising this doctrinal research approach, this thesis provides a systematic exposition of the regulations governing UGR development and places these doctrines within the specific social context in which they have developed.

1.4 Thesis Context

Arguably, the most pressing challenge facing Australia is how to plan for a future that is economically productive, preserves agricultural land and provides energy in an increasingly energy-hungry country.⁶⁷ The focus on rural Australia is an increasing political imperative, as significant economic growth is likely to come from these regions due to their significant CSG reserves.⁶⁸ This, in turn, requires regulation that accommodates both the need for energy and the need to maintain existing agricultural lands that have been the mainstay of the Australian economy for almost 200 years.⁶⁹

In many countries, the transition from indigenous agricultural practices to colonised pastoral agrarian cultivation and, finally, industrial agriculture is well underway and mining has

⁶³ Sharon Hanson, *Legal Method and Reasoning* (Routledge, 2012).

⁶⁴ Christopher McCrudden, 'Legal Research and the Social Sciences' (2006) 122 *Law Quarterly Review* 632, 648.

⁶⁵ Tamara Hervey, above n 67, 86.

⁶⁶ Trischa Mann and Audrey Blunden, *Australian Law Dictionary* (Oxford University Press, 2010).

⁶⁷ Ian Gray and Geoffrey Lawrence, *A Future for Regional Australia: Escaping Global Misfortune* (Cambridge University Press, 2001).

⁶⁸ Peter Hannam, 'Sitting ducks: Santos' CSG gaps highlighted by farmers, government agencies' (12 June 2017) *The Sydney Morning Herald* (Online) <<http://www.smh.com.au/environment/sitting-ducks-santos-csg-gaps-highlighted-by-farmers-government-agencies-20170612-gwp93t.html>>

⁶⁹ Tobin Gorey, 'Feeding the 'Dining Boom' on *Commonwealth Bank Blog* (5 May 2016) <<https://www.commbank.com.au/guidance/blog/feeding-the-dining-boom-201605.html>>.

reduced in relative importance as being emblematic of the post-industrial economic model (even where it remains a large industry in absolute terms). This is in contrast to some developed nations, such as Australia and Canada that are still expanding their mining industries as according to Everingham:

a handful of nations—Australia and Canada amongst them—have not undergone this transition and continue to actively expand exploitation of their rich mineral resources as a significant part of their national economies. For instance, Australia’s mining and energy sectors have recently experienced a massive escalation such that their production constituted over half the value of Australia’s total exports and, at 8%, the industry was the fourth largest contributor to the nation’s total gross domestic product in 2010–2011.⁷⁰

Australia remains a dominant mining nation and the social, environmental, scientific and regulatory scope of mining and energy have been the subject of six recent Commonwealth and state inquiries in Australia. In May 2016, the *Senate Select Committee on Unconventional Gas Mining* (the Unconventional Gas Senate Inquiry) released its Interim Report.⁷¹ The Unconventional Gas Senate Inquiry terms of reference included the intention to:

Inquire on the adequacy of Australia’s legislative, regulatory and policy framework for unconventional gas mining including coal seam gas (CSG) and shale gas mining’ with reference to a variety of current approaches to regulation including: a national approach to the conduct of unconventional gas mining in Australia; the health, social, business, agricultural, environmental, landholder and economic impacts of unconventional gas mining; government and non-government services and assistance for those affected and compensation and insurance arrangements.⁷²

Chapter Four of the Unconventional Gas Senate Inquiry Interim Report is dedicated to an analysis of the property, mineral and petroleum rights issues in Australia, with a particular examination of documented experiences of landholders affected by UG mining. The report commented on the current state of landholder rights in the Australian petroleum regulatory system:

Landowners are owners of the surface of the land and have no automatic right to the minerals and petroleum, including unconventional gas, which may be on the land.

⁷⁰ Jo-Anne Everingham, ‘Transformations of Rural Society and Environments by Extraction of Mineral and Energy Resources’ in David Brown and Mark Sucksmith (eds), *Routledge International Handbook of Rural Studies* (Taylor and Francis, 2016) 10, 10.

⁷¹ Senate Select Committee on Unconventional Gas, Parliament of Australia, *Inquiry into Unconventional Gas Interim Report* (2016).

⁷² Senate Select Committee on Unconventional Gas, Parliament of Australia, *Terms of Reference* (2016) <https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Gasmining/Gasmining/Terms_of_Reference>.

They do not receive any royalties and cannot refuse access to holders of petroleum exploration or mining permits, licences or leases. Should landholders refuse access, the resource companies involved can force access and enter negotiations for damage to their property or livelihood associated with the property.⁷³

Queensland's CSG land use and access regulatory regime seeks to balance the interests of the agricultural sector with UGR activities while protecting 'priority agricultural land'.⁷⁴ The National Farmers Federation (NFF) offered criticism of the increasing rigidity between land access arrangements and CSG activities in Australia during the Unconventional Gas Senate Inquiry:

Land access agreements may be the only time where landholders can actually seek to positively influence the process, and receive some protections and assurances from the mineral and petroleum industries... However, it is worthwhile noting that farmers may be overwhelmed, confused and under stress.⁷⁵

The NFF policy position is ensuring that land use and land access of UGR activities on agricultural land is effectively regulated by emphasising the protection of farmland and ability for sustainable agricultural operations during CSG exploration and extraction:

The debate around CSG is moving at a rate of knots. Our position, and that of our members, is not about preventing mining and CSG exploration or extraction – but rather ensuring that agriculture, CSG and mining can coexist, so as to guarantee the long-term sustainability of our food and fibre production... We recognise that this may require a more considered approach, rather than a mad rush towards resource extraction.⁷⁶

Without exception, all UGR activities in Australia occur on land. The recovery of UGR is divided into two categories of UGR—shale gas (in Central and Western Australia,⁷⁷ the Northern Territory⁷⁸ and South Australia⁷⁹) and CSG (found primarily in the Bowen Basins and Surat Basins of Queensland and the Gunnedah Basin and Sydney Basins of New South Wales).

⁷³ Senate Select Committee on Unconventional Gas, Parliament of Australia, above n 71, 21.

⁷⁴ *Regional Planning Interests Act 2014* (Qld) s 8(2).

⁷⁵ National Farmers Federation, Submission No 171 to Select Committee on Unconventional Gas Mining, *Inquiry into Unconventional Gas Mining*, 14 March 2016, 3.

⁷⁶ National Farmers Federation, *Senate Inquiry Explores Coal Seam Gas* (19 July 2011) <<http://www.nff.org.au/read/2140/senate-inquiry-explores-coal-seam-gas.html?hilit=coal+seam+gas>>.

⁷⁷ In Western Australia, the Canning Basin and Perth Basin.

⁷⁸ In the Northern Territory, the Amadeus Basin, Georgina Basin and Beetaloo Sub-Basin.

⁷⁹ In South Australia and Queensland (in part) the Cooper-Eromanga Basin.

Primary CSG activity is, to date, confined to Queensland due to its high permeability of coal seams, where commercial limited, small-scale CSG production commenced in 1996 to provide gas for domestic electricity consumption.⁸⁰ Since 2015, the large-scale development of CSG has been focused on targeted export of LNG to Asian energy markets on long-term forward contracts.⁸¹

There is a lack of legal consensus in Australia on how to manage the complex regulatory issues associated with UGR, an important present and future economic contributor for resource states such as Queensland.⁸² The Senate Inquiry has had the effect of further polarising political debate on UG in an effort to ensure that equity between energy companies and agricultural landholders is achieved.⁸³ The Australian Government submission to the Senate Inquiry states that its *Domestic Gas Strategy*⁸⁴ reflects the Government's commitment to balancing competing land uses, as identified in the principles articulated in the *Agricultural Competitiveness White Paper*⁸⁵ which states:

Access to agricultural land should only be done with the farmer's agreement, and that should they agree, they should be fairly compensated; there must be no long term damage to water resources used for agriculture and local communities; and prime agricultural land and quality water resources must not be compromised for future generations.⁸⁶

CSG is a dual porosity system, whereby blocks of subsurface coal have micropores filled with methane separated by a water-filled fracture structure. Subsurface water is extracted to depressurise the coal seam and allow gas to flow through the production well to the surface.⁸⁷ The extracted gas and water are then separated into individual surface pipelines and pumped

⁸⁰ Tina Hunter, 'The Development of Shale Gas and Coal Bed Methane in Australia: Best Practice for International Jurisdictions?' (2016) 38(2) *Houston Journal of International Law* 367.

⁸¹ As will be comprehensively examined within Chapter three of this thesis.

⁸² Queensland Government, Department of Natural Resources and Mines, *Queensland Gas Supply and Demand Action Plan Discussion Paper* (2016).

⁸³ The Senate, Select Committee on unconventional Gas Mining, *Interim Report* (2016).

⁸⁴ Australian Government Department of Industry and Services, *Domestic Gas Strategy Australian Government Policy and Actions* (2015) < <http://industry.gov.au/energy/energymarkets/documents/domestic-gas-strategy.pdf>>.

⁸⁵ Agricultural Competitiveness Taskforce, Parliament of Australia, *Agricultural Competitiveness White Paper* (2015).

⁸⁶ Senate Standing Committee on Environment and Communications, Australian Parliament, *Inquiry into the Landholder's Right to Refuse (Gas and Coal Bill)* (2015), 3.

⁸⁷ Stuart Khan and Geena Kordek, *Coal Seam Gas: Produced Water and Solids* (2014) < http://www.chiefscientist.nsw.gov.au/__data/assets/pdf_file/0017/44081/OCSE-Final-Report-Stuart-Khan-Final-28-May-2014.pdf>; Mary O'Kane, *Initial Report On The Independent Review Of Coal Seam Gas Activities In NSW* (2013) < http://www.chiefscientist.nsw.gov.au/__data/assets/pdf_file/0016/31246/130730_1046_CSE-CSG-July-report.pdf>.

to a processing facility to be further dehydrated and compressed into LNG where it is liquefied for export to international gas markets. CSG wells are depleted of natural gas faster than conventional wells due to relatively low permeability, connectivity and continuity in the coal seams. Therefore, to make the development of a CSG field economically viable, wells need to be drilled on a continuing basis to access the gas located in other parts of the coal seam.⁸⁸

As Australia is the world's second-driest continent,⁸⁹ with an average annual rainfall below 600 mm for over 80% of the continent, water is a highly valued resource and commodity. Concerns of CSG extraction of water surrounding the coal seam has been well documented by the Australian Senate Management of the Murray-Darling Basin Inquiry, which highlighted:

- the potential impact on underground aquifers associated with the extraction of CSG and its impact on the Great Artesian Basin (GAB) as a water source for agricultural areas with low rainfall
- potential pollution of aquifers caused by hydraulic fracturing chemical fluids
- the insufficient compensation paid to landholders for the impact of CSG extraction
- the inability of landholders to control access of CSG activities on their land.⁹⁰

While the issues associated with CSG water are significant in its potential impacts to groundwater aquifer contamination, this is not the focus of this thesis. This thesis focuses on land use and land access and its significance for the regulation of UGR activities, considering water only insofar as it relates to land use and agricultural land use regulation.

CSG has a 'dispersed geospatial footprint'⁹¹ partly due to the large amount of associated infrastructure required. Pipeline transport systems (for water and gas) and CSG extraction

⁸⁸ Department of Industry, Innovation and Science (Cth), Office of the Chief Economist, *Review of the Socioeconomic Impacts of Coal Seam Gas in Queensland* (Commonwealth of Australia, 2015) <<https://industry.gov.au/Office-of-the-Chief-Economist/Publications/Documents/coal-seam-gas/Socioeconomic-impacts-of-coal-seam-gas-in-Queensland.pdf>>.

⁸⁹ Antarctica is the driest continent in the world. Annual rainfall below 600 millimetres (mm) over 80% of the continent, and below 300 mm over 50%. Summers are hot through most of the country, with average January maximum temperatures exceeding 30 degrees Celsius (°C) over most of the mainland except for the southern coastal fringe between Perth and Brisbane, and areas at high elevations. Australian Bureau of Statistics, Year Book of Australia 2012, *Geography and Climate* (2012).

⁹⁰ Rural Affairs and Transport Reference Committee, Parliament of Australia, *Management of the Murray Darling Basin Interim Report: The Impact Of Mining Coal Seam Gas On The Management Of The Murray Darling Basin* (2011) <https://webcache.googleusercontent.com/search?q=cache:a5nVVVoAGFncJ:https://www.aph.gov.au/~media/wopapub/senate/committee/rrat_ctte/completed_inquiries/2010-13/mdb/interim_report/a01.ashx+&cd=1&hl=en&ct=clnk&gl=uk>.

activities necessitate land use and access for processing and transportation for CSG to domestic and international gas markets for up to 20 years. The application and grant of various licenses, authorities and leases is required to explore, survey and extract CSG on private land or government land held under a pastoral lease.⁹² The Inquiry into Unconventional Gas⁹³ noted a number of common concerns rendering agricultural land incompatible with agricultural activities including:

- potential groundwater impacts
- potential impacts of CSG on individual farm groundwater supplies/bores
- weed and biosecurity risks on property from CSG
- time taken away from agricultural activities to negotiate land access agreements or management CSG activities
- cropping and livestock land allocated to UG mining rather than agricultural production
- roads, wellheads and connection pipes on agricultural land potentially limiting agricultural production.⁹⁴

This thesis utilises the notion that some aspects of CSG extraction, such as the depletion of water from aquifers and the high volume of produced water that can have devastating effects on agricultural farmland, are in conflict with agricultural activities if left unregulated. Therefore, the focus of this thesis is to determine how the legal framework can effectively regulate UGR activities to protect productive farmland, ensure long-term viability of such lands and protect the rights and interests of the farmers who own or use that land.

⁹¹ Department of Industry, Innovation and Science (Cth), Office of the Chief Economist, *Review of the Socioeconomic Impacts of Coal Seam Gas in Queensland* (Commonwealth of Australia, 2015) <<https://industry.gov.au/Office-of-the-Chief-Economist/Publications/Documents/coal-seam-gas/Socioeconomic-impacts-of-coal-seam-gas-in-Queensland.pdf>>.

⁹² 'Pastoral leases have been a significant land tenure type for the growth of the Australian agriculture industry. Pastoral leases cover approximately 44% of Australia's mainland (338 million hectares) and are generally situated in arid and semi-arid regions and the tropical savannahs. These leases predominately allow people to use the land for grazing traditional livestock such as cattle and sheep, but have recently become used for tourism, non-traditional livestock (such as kangaroos or camels) and other associated activities'. Australian Government, *Pastoral Leases* (2017) <<https://www.austrade.gov.au/land-tenure/land-tenure/pastoral-leases>>; J.G. Holmes and L.D.P Knight, 'Pastoral Lease Tenure in Australia: Historical Relic or Useful Contemporary Tool?' (1994) 16(1) *The Rangeland Journal* 106.

⁹³ Parliament of Australia, *Select Committee on Unconventional Gas Mining* (2016) <https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Gasmining/Gasmining>.

⁹⁴ Commonwealth of Australia, Select Committee on Unconventional Gas Mining, *Interim report* (2016) 58-60.

1.5 Queensland's Unconventional Gas Resources

CSG, previously thought of as a fugitive gas waste product from conventional coal mining, is now the largest onshore UG industry in Australia due to the international technological developments of hydraulic fracturing.⁹⁵ CSG activities have rapidly developed in Queensland since the commencement of mining in 1996, while 'exploration for shale and tight gas in Queensland is in its infancy and no production of gas from these formations has occurred to date'.⁹⁶

UG, of which CSG is a type, is distinct from conventional gas which is found as gas during CSG exploitation, rises towards the earth's surface and trapped as gas formations within deposits of sedimentary rock. Conversely, UG is formed within impermeable rock formations and is consequently trapped in a rock formation, rather than by a covering rock formation.⁹⁷ As encapsulated by Geoscience Australia:

Unconventional resources are natural resources that require greater than industry-standard levels of technology or investment to exploit. In the case of unconventional hydrocarbon resources, additional technology, energy and capital has [sic] to be applied to extract the gas.⁹⁸

CSG is UG, consisting mostly of methane, trapped in underground coal seams by water and ground pressure. CSG can be extracted vertically and/or horizontally by constructing a well and drilling to a depth of up to 300 to 1,000 metres to reach a coal seam.⁹⁹ A CSG well consists of:

Cement and steel casings to protect from leakage and groundwater contamination. Water in the coal seam is pumped out in order to release stored gas, however, when the CSG cannot be accessed easily, hydraulic fracturing techniques can be used to increase the gas pressure and speed of access to the CSG.¹⁰⁰

⁹⁵ Yuan-Ping Cheng, Lei Wang, Xiao-Lei Zhang 'Environmental impact of coal mine methane emissions and responding strategies in China' (2011) 5(1) *International Journal of Greenhouse Gas Control* 157, 166.

⁹⁶ Queensland Government, Submission No 87 to Senate Standing Committee on Environment and Communications, *Inquiry into the Landholder's Right to Refuse (Gas and Coal Bill)*, August 2015, 4-5.

⁹⁷ Rafiqul Islam, *Unconventional Gas Reservoirs: Evaluation, Appraisal, and Development* (Elsevier, 2014).

⁹⁸ Geoscience Australia, *Unconventional Petroleum Resources* (2012) <<http://www.ga.gov.au/scientific-topics/energy/resources/petroleum-resources/unconventional-resources>>.

⁹⁹ Alireza Bahadori, *Natural Gas Processing: Technology and Engineering Design* (Gulf Professional Publishing, 2014); Rafiqul Islam, *Unconventional Gas Reservoirs: Evaluation, Appraisal, and Development* (Elsevier, 2014).

¹⁰⁰ Senate Select Committee on Unconventional Gas, Parliament of Australia, above n 71, 7.

In 2013–2014, a record 1,634 CSG wells were drilled in Queensland consisting of exploration, appraisal, injection and development wells.¹⁰¹

The shift towards supplying CSG to international markets, with the first LNG exportation commencing in Queensland in January 2015, has fundamentally altered the Australian CSG sector.¹⁰² Queensland's LNG export industry has forced the CSG industry to compete against foreign exporters of shale gas such as the United States (US) for supply, pushing prices higher and shortening contract lengths. Robb defines shale gas as distinct from CSG, as 'shale gas is natural (unconventional) gas that has not migrated to a reservoir rock because it is trapped within an impermeable layer of rock, giving rise to its low permeability characteristics'.¹⁰³

Consequently, Australian gas consumers are increasingly subject to scarcity pricing due to LNG exporters struggling to fulfil their LNG export contracts. As acknowledged by the Joint Department of Industry and Bureau of Resources and Energy Economics study into Eastern Australian gas markets:

The current development of LNG in eastern Australia and the expected tripling of gas demand are creating conditions that are in stark contrast to those in the previously isolated domestic gas market. The timely development of gas resources will be important to ensure that supply is available for domestic gas users and to meet LNG export commitments. Such is the scale of the LNG projects that even small deviations from the CSG reserve development schedule could result in significant volumes of gas being sourced from traditional domestic market supplies.¹⁰⁴

The laws of the Australian states and territories requires the Crown, as the owner of petroleum resources in Commonwealth legal jurisdictions, to grant access to private land and enable the relevant petroleum tenement holder to recover the applicable CSG resources. Crown land is

¹⁰¹ Queensland Government, Department of Natural Resources and Mines, *Queensland's Petroleum and Coal Seam Gas 2014-2015* (2015), 1.

¹⁰² Natasha Cassidy and Mitch Kosev, *Australia and the Global LNG Market* (2015) <<https://www.rba.gov.au/publications/bulletin/2015/mar/pdf/bu-0315-4.pdf>>.

¹⁰³ Simon Alexander Robb, *A best practice Regulatory Proposal for Shale Gas Production* (SJD Thesis, University of Western Australia, 2014) 19.

¹⁰⁴ Australian government, Department of Industry Bureau of Resources and Energy Economics, *Eastern Australia Domestic Gas Market Study* (2014) <<http://www.industry.gov.au/Energy/EnergyMarkets/Documents/EasternAustralianDomesticGasMarketStudy.pdf>>.

owned and managed by the relevant state government and, therefore, does not require a land access agreement with a private landholder.¹⁰⁵ As stated by Hepburn:

The common law scope of private land ownership has been modified by legislation enacted in each state and territory which purports to vest the ownership of minerals and resources back to the state. Indeed, all Australian states and the Northern Territory have legislatively declared that petroleum *in situ* is owned, without exception, by the Crown regardless of when the land containing the petroleum passed into private ownership.¹⁰⁶

The *Petroleum and Gas Production and Safety Act 2004* (Qld) (PGPSA) defines CSG as ‘petroleum (in any state) occurring naturally in association with coal or oil shale, or in strata associated with coal or oil shale mining’.¹⁰⁷ Therefore, the exploration for and production of CSG in Queensland is principally regulated by the PGPSA and PA, as CSG is a naturally occurring gaseous hydrocarbon principally comprised of methane formed as part of the transformation process of peat to coal. CSG falls within the statutory definition of ‘petroleum’ in all Australian jurisdictions other than Victoria.¹⁰⁸

One of the main purposes of the PGPSA is to ‘create an effective and efficient regulatory system for the carrying out of petroleum activities and the use of petroleum and fuel gas while ensuring petroleum activities are carried on in a way that minimises conflict with other land uses’.¹⁰⁹ It is against this purpose and UG policy that the current UGR regulatory regime of Queensland is assessed.

The recent repeal of the *Strategic Cropping Land Act 2011* (Qld) (SCL Act) and the concomitant introduction of the RPIA and the Regional Interests Development Approval (RIDA) regime is a direct result of the increasing regulatory concerns around protecting and sustaining agricultural activities during and after CSG activities. The RPIA aims to provide a

¹⁰⁵ Examples of where the Crown may grant access or rights of control over the land include; Crown lands held under lease including pastoral leases; licence or permit; community managed reserves. In Queensland, Crown land is known as State land pursuant to the *Land Act 1994* (Qld) and defined as land that includes State land that is leased or dedicated to the public as a road or reserve; or the subject of a permit to occupy or a licence; or land that has not been allocated (unallocated State land) under some form of tenure. Paul Babie, *Crown Land in Australia* (University of Oxford, 2001).

¹⁰⁶ Samantha Hepburn, Submission No 86 to Senate Standing Committee on Environment and Communications, *Landholder’s Right to Refuse (Gas and Coal Bill)*, August 2015, 4-5.

¹⁰⁷ *Petroleum and Gas (Production and Safety) Regulation 2004* (Qld) s 299(1).

¹⁰⁸ In Victoria, the meaning of ‘petroleum’ does not include any naturally occurring hydrocarbon, or mixture of hydrocarbons, within a deposit of coal or oil shale *Petroleum Act 1998* (Vic) s 6.

¹⁰⁹ *Petroleum and Gas (Production and Safety) Regulation 2004* (Qld) s (1)(c)(f).

single integrated legislative framework that ‘manages the impact of resource activities on areas likely to contribute to Queensland’s economic, social and environmental prosperity’.¹¹⁰

This legislation is intended to protect and preserve the most valuable agricultural land and manage impacts of development on that land by providing a transparent and accountable process of proposed resource activity.¹¹¹ Priority Agricultural Areas (PAAs) are defined in the RPIA as including:

One or more areas used for a priority agricultural and use, whether it also includes other areas or features, including, for example, a regionally significant water source; and is either (i) shown on a map in a regional plan as a priority agricultural area; or (ii) prescribed under a regulation.¹¹²

Further, a Priority agricultural land use is defined as ‘highly productive agriculture of a type identified in a regional plan for an area of regional interests; or of a type prescribed under a regulation for an area of regional interest’.¹¹³ However, non-agricultural uses are not defined or considered in the RPIA. Rather, agricultural land uses are simply defined as being:

Highly productive agricultural areas, or agricultural land uses with significant infrastructure investment or agricultural land uses that have the potential to be significantly impacted by resource activities and have limited scope to modify their agricultural practices in response to these impacts.¹¹⁴

Regional plan areas may further define PAAs. For example, the Darling Downs Regional Plans identifies the agricultural industries of the region as including:

Grain production, intensive livestock and cattle grazing as well as some horticultural and broad acre cropping. The region’s major agricultural products include cotton, wheat, barley, sorghum, sunflower and soy beans. In 2011, the region’s production of cotton, sorghum, and wheat contributed more than 70 per cent of Queensland’s production for each crop. Over the five years to 2011 the total gross value of agricultural production from the region increased by six per cent to over \$2.5 billion—equating to over a quarter of the state’s agricultural production¹¹⁵

¹¹⁰ *Regional Planning Interests Act 2014* (Qld) s 3.

¹¹¹ *Regional Planning Interests Act 2014* (Qld) s 3.

¹¹² *Regional Planning Interests Act 2014* (Qld) s 8(1).

¹¹³ Petroleum and Gas (Production and Safety) Regulation 2004 (Qld) s 8(2).

¹¹⁴ Department of Infrastructure, *Local Government and Planning, RPIA Guideline 07/14* (2015) <<http://www.dilgp.qld.gov.au/resources/guideline/rpi-guideline-07-14-how-to-identify-priority-agricultural-land-use.pdf>>.

¹¹⁵ Department of State Development, Infrastructure and Planning, *Darling Downs Regional Plan* (2013) <<http://www.statedevelopment.qld.gov.au/resources/plan/darling-downs/darling-downs-regional-plan.pdf>>
16.

The RPIA holds the broad purpose of protecting PAAs, priority living areas (PLAs), strategic cropping areas (SCAs) and strategic environmental areas, each of which are classified as ‘areas of regional interest’.¹¹⁶

Currently, five resource Acts are applicable to Queensland’s oil and gas regulatory regime—the *Mineral Resources Act 1989* (Qld) (MRA Act), PGPSA, PA Act, *Greenhouse Gas Storage Act 2009* (Qld) and *Geothermal Energy Act 2010* (Qld). For the purpose of this thesis, both the PGPSA and PA Act are the primary applicable legislation governing CSG operations on rural land in Queensland. In recognising the lack of transparency, collaboration and efficiency in its current UGR regime, the Queensland Government noted:

Landholders and other groups such as environmental and community groups who regularly deal with resource companies will benefit from a single resources Act as they will gain a better understanding of processes, rights and responsibilities through a single, simplified reference point.¹¹⁷

As a response to the continued contestation between agricultural landholders and mineral titleholders and lack of regulatory efficiency, the MERCPA commenced operation September 2016. The MERCPA regulatory framework seeks to create a common resources Act by migrating the first suite of provisions from existing resources Acts, including the PGPSA, to ‘reduce complexity, volume and duplication’.¹¹⁸

A dedicated new land access chapter is found in the MERCPA, containing the previous CCA regulatory provisions and adding opt-out and deferral agreements to manage land access of resource activities on private land. It is intended that this land framework will ‘allow landholders and resource companies to easily understand their rights and obligation in gaining access to private land’.¹¹⁹ Chapter 5 of this thesis analyses the new MERCPA and examines whether the new regime achieves its aim ‘to bring equity and certainty to land access and compensation agreements for both landholders and resource companies’.¹²⁰

¹¹⁶ *Regional Planning Interests Act 2014* (Qld) s 4. The effectiveness of the RPIA regulatory regime in effectively managing multiple land interests during UGR exploitation to promote coexistence is examined in Chapter 4 of this thesis.

¹¹⁷ Queensland Government, *Summary of the Mineral and Energy Resources (Common Provisions) Bill* (2014) <<http://www.parliament.qld.gov.au/documents/committees/AREC/2014/24-MinEngResBill/Cor-25Jun2014-DNRMWrittenBriefing.pdf>>.

¹¹⁸ Queensland Government, *Ibid*, 2.

¹¹⁹ Queensland Government, *Ibid*, 3.

¹²⁰ Queensland Government, *Ibid*, 6.

1.6 Competing Interests in Unconventional Gas Contexts

Scientific, social and legal research has extensively documented the unease between the agricultural and mining land uses. As stated by Williams, Milligan and Stubbs, ‘It is a defensible proposition that the only development activities that should be acceptable in a region are those that allow the landscape to maintain its function indefinitely. It would be folly to secure one natural resource while putting at risk renewable long-term resource use’.¹²¹

The UGR sector has grown rapidly in Queensland over the last six years and relationships with local communities are improving and continue to evolve. The transition from primary agricultural production to mixed production and interests on agricultural land where UGR activities take place has been challenging for some agricultural landholders. These challenges include dramatically changing market conditions, less affordable gas pricing as the East Coast of Australia faces a gas shortage and the need to improve coexistence with competing land uses. It is the role of the law to attempt to balance and protect the interests of both the agricultural and UG industries. Agricultural landholders are understandably reluctant to allow their prime agricultural land to be used for CSG extraction.

The stated UGR policy of the Queensland Government is to ‘maximise the sector’s potential [...] and be internationally competitive, while balancing the needs of landholders’.¹²² The UGR regulatory framework aims to create ‘coexistence’¹²³ in the exploration and production of UGR on agricultural lands to ensure ‘the social, economic, environmental and heritage values of land use are promoted and retained for current and future generations’.¹²⁴

This thesis does not intend to definitively answer the question of whether agriculture and UG exploitation can coexist harmoniously without any detrimental social, cultural, or environmental consequences. This thesis also does not comprehensively and exhaustively examine the geological and ecological impacts of UG exploitation on agricultural lands in Queensland or British Columbia. Rather, this thesis focuses on the regulatory framework that

¹²¹ John Williams, Ann Milligan and Time Stubbs, ‘Whole of Landscape Assessment and Planning in the Management of Unconventional Gas Exploration and Production in Australia’ in R. Quentin Grafton, Ian G. Cronshaw, Michal C. Moore (eds), *Risks, Rewards and Regulation of Unconventional Gas: A Global Perspective* (Cambridge University Press, 2016) 427, 427.

¹²² Queensland Government, Department of Natural Resources and Mines, Queensland Gas Supply and Demand Action Plan, *Discussion Paper* (2016) 10.

¹²³ *Regional Planning Interests Act 2014* s 3(1)(c)(ii); *Gasfields Commission Act 2014* (Qld) s 3.

¹²⁴ Queensland Government, Department of Natural Resources and Mines, above n 122, 10.

Queensland currently operates when managing the multiple interests of the State in developing its UGR tenements.

1.7 Regulatory Framework of British Columbia as a Benchmark for the Evaluation of Queensland's Regulation

British Columbia has much larger UG reserves relative to Queensland, consisting mostly of shale gas, with an estimated 2,933 Tcf, primarily situated in the northeast region of the province in the Horn River Basin, the Montney, the Liard Basin and the Cordova Embayment.¹²⁵ As of 2012, 1,400 shale gas wells produce over 2 billion cubic feet of gas per day in British Columbia.¹²⁶ CSG is geologically distinct to shale gas as 'shale is much harder than coal, is much more impermeable, and is usually found deeper underground. Shale gas always requires hydraulic fracturing to allow the gas to flow, simply because it is so impermeable'.¹²⁷ Further, shale gas is usually best accessed via horizontal drilling techniques, rather than the vertical drilling techniques used for CSG drilling.¹²⁸ As further clarified by Ross and Darby:

The low permeability nature of shales also means that the amount of water produced is lower than coal seams, and since the gas is induced to flow by hydraulic fracturing, produced Hence, shale gas extraction requires larger quantities of water for fracking than coal seam gas extraction does, but it does not produce the large quantities of water that CSG extraction does through the 'dewatering' process.¹²⁹

Over the past five years, the Provincial Government of British Columbia has launched a campaign to promote the development of an LNG industry in the province. LNG proponents in British Columbia argue that shale gas will bring significant economic benefits and, interestingly, strengthen British Columbia's environmental leadership since UG, in comparison to coal, is a 'cleaner energy source and can therefore serve as a 'bridge' fuel between fossil fuels and renewables'.¹³⁰ However, an equally vocal legal campaign has

¹²⁵ Sibo Chen and Shane Gunster, "'Ethereal Carbon': legitimizing liquefied natural gas in British Columbia' (2016) 10(3) *Environmental Communication* 305, 307.

¹²⁶ Energy and Mines Ministers' Conference, *Responsible Shale Development Knowledge Base* (2013) <https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/www/pdf/publications/emmc/Shale_Resources_e.pdf> 17.

¹²⁷ Ross and Darby, above n 9, 3.

¹²⁸ Jay Rutovitz, Stephen Harris, Natasha Kuruppu and Chris Dunstan, 'Drilling Down. Coal Seam Gas: A Background Paper' (Prepared by Institute for Sustainable Futures UTS for the City of Sydney Council, November 2011), 3.

¹²⁹ Ross and Darby, above n 9, 3-4.

¹³⁰ Chen and Gunster, above n 125, 307.

contested these claims, such as the Gitksan First Nation, one of four Federal Court challenges, lodging a judicial review of the Pacific Northwest LNG project in January 2017.¹³¹

Historically, in British Columbia, conventional natural gas was primarily extracted for domestic industrial and household usage and its price and production scale were relatively stable. Over the last decade, however, two key developments have changed the economic calculus around the industry. First, the application of hydraulic fracturing techniques has dramatically increased the UG industry's capacity to exploit shale gas basins in North America, resulting in a sharp decline in the price of the commodity in the US and Canadian markets.¹³² Second, rapid economic growth in Asia significantly increased demand for energy, including natural gas, generating a sharp elevation in UG prices.¹³³

Alongside the development of the LNG industry in British Columbia is the land use clustering and zoning system regulating restrictions on all non-farm activities on protected agricultural land to encourage farming and safeguard farmland with the enactment of the province-wide ALR in 1973.¹³⁴ Public sentiment to maintain the ALR stems from a desire to secure local food production, maintain the local agricultural economy and protect the environment. Environmental groups have expended significant effort encouraging the government and the general public to increase protection of agricultural land.¹³⁵

As at June 2015, in British Columbia there is currently 4,620,858 ha (11,418,388.79 ac) included in the ALR, representing 5% of the total provincial area, only half of which is currently engaged in agricultural production.¹³⁶ Twenty-seven per cent of British Columbia's total ALR land is located in the Peace River Regional District (PRRD) where most hydraulic fracturing in the province takes place.¹³⁷ The largest amount of ALR land in the Regional District is in the communities of Fort St John and Dawson Creek. According to the 2011 Census of Agriculture, 823,498 ha (203,4907.87 ac) are being farmed in the PRRD which

¹³¹ The Canadian Press, 'Another Court Challenge against B.C. LNG Project' *Global News* (online), 10 January 2017 <<http://globalnews.ca/news/3172542/more-court-challenges-of-b-c-lng-project-expected-2/>>.

¹³² Yew and Weng, above n 7.

¹³³ Chen and Gunster, above n 125, 309.

¹³⁴ Robert Androkovich, Ivan Desjardins, Gordon Tarzwell, and Peter Tsigaris, 'Land Preservation in British Columbia: An Empirical Analysis of the Factors Underlying Public Support and Willingness to Pay' (2008) 40(3) *Journal of Agricultural and Applied Economics* 999.

¹³⁵ Ryan Green, *Case Studies of Agricultural Land Commission Decisions: The Need for Inquiry and Reform* (2006) <[http://www.elc.uvic.ca/documents/ALR%20Final%20Report%20\(FINAL-2\).pdf](http://www.elc.uvic.ca/documents/ALR%20Final%20Report%20(FINAL-2).pdf)>.

¹³⁶ Agricultural Land Commission, *Provincial Land Commission Annual Report 2014/2015* (30 June 2015) <http://blogs.ubc.ca/alrmap/files/2016/02/annual_report_2014-2015.pdf>.

¹³⁷ Ryan Green, *Case Studies of Agricultural Land Commission Decisions: The Need for Inquiry and Reform* (2006) <[http://www.elc.uvic.ca/documents/ALR%20Final%20Report%20\(FINAL-2\).pdf](http://www.elc.uvic.ca/documents/ALR%20Final%20Report%20(FINAL-2).pdf)>.

accounts for 64% of the region's ALR.¹³⁸ Fort St John and Dawson Creek are situated above the Montney Shale Gas Basin. Consequently, resource development of shale gas and ALR lands must coexist.

The UGR regulatory framework for the approval of petroleum titles on agricultural lands in British Columbia will serve as a comparator to Queensland in assessing whether any lessons can be learned from other jurisdictions facing similar challenges in managing competing land interests.

1.8 Thesis Conceptual Underpinnings

1.8.1 Coexistence

Coexistence seeks to recognise and equitably manage the interests of different stakeholders, regulatory bodies and private companies. This ensures effective regulation of competing land uses, rather than one sector being privileged to the disadvantage of another. The stated purpose of Queensland's UGR framework is to 'achieve coexistence of landholders, regional communities and the onshore gas industry in Queensland'.¹³⁹ Consequently, coexistence is fundamental to achieving effective regulation of UGR exploration and extraction with one specific stakeholder group, agricultural landholders.¹⁴⁰

According to Everingham et al, coexistence in the context of CSG and community sustainability, conservation of biodiversity and integrated approaches to land use planning includes, 'effective management by resource companies, and by regulators, of operating practices, off-site impacts, and the distribution of benefits'.¹⁴¹ Coexistence and the distribution of benefits from the industry as it affects agricultural landowners and the UG industries in Queensland is therefore the decisive intention of the RPIA.

¹³⁸ Peace River Regional District, *Regional Agricultural Plan Background Report* (2014) <<http://prrd.bc.ca/wp-content/uploads/Background-Report-Final-November-2014.pdf>>.

¹³⁹ *Gasfields Commission Act 2013* (Qld) s 3. *Regional Planning Interests Act 2014* (Qld) s 3(c) one of the purposes of this Act is to achieve 'coexistence, in areas of regional interest, of resource activities and other regulated activities with other activities, including, for example, highly productive agricultural activities'.

¹⁴⁰ For purposes of clarity, it is noted that the effect of the unconventional gas industry on Aboriginal treaty rights and lands and the ability of indigenous stakeholders to coexistence harmoniously with the unconventional gas industry is not addressed within this thesis.

¹⁴¹ Jo-Anne Everingham, Nina Collins, Will Rifkin, Daniel Rodriguez, Thomas Baumgartl, Jim Cavaye and Sue Vink, 'How Farmers, Graziers, Miners And Other Gas-Industry Personnel See Their Potential For Coexistence In Rural Queensland' (2014) 6(2) *SPE Economics and Management* 122, 122; Tina Hunter, Submission No 9 to the Productivity Commission, *Regulatory Burden on the Upstream Petroleum (Oil and Gas) Sector*, August 2008.

The National Multiple Land Use Framework (MLUF),¹⁴² released in 2013, defines coexistence as a:

Principle that acknowledges and respects the rights of all land users and the potential of all regulated land uses, while ensuring that regulated land is not restricted to a sole use without considering the implications or consequences for other potential land uses and the broader benefits to all Australians.¹⁴³

This definition of coexistence at the national level is applicable as a benchmark in the management of competing interests during UGR activities. It is in the interests of the state, petroleum titleholders and landholders to coexist given that UGR production activities may be ongoing for the next 20–30 years. It is noted that the use of the term coexistence in this thesis does not extend to the argument of environmentalists relating to soil, water and land degradation as a result of hydraulic fracturing. This is primarily a scientific and highly technical discussion outside the scope of this thesis.

1.8.2 Regulation

Regulation is intended to influence the behaviour of individuals, organisations and governmental actors to promote specific community objectives including those relating to social and environmental concerns.¹⁴⁴ Historically, economists have asserted that regulation is efficient when it maximises wealth and economic outcome.¹⁴⁵ However, this view provides no ethical basis for action and cannot justify the distinction of rights in society. Thus, it cannot be used as a yardstick to measure regulatory decisions affecting society. Legitimate or ‘good’ regulation and regulatory regimes involve reference to two or more of the following five key inquiries:

- Is the action of regime supported by legislative authority?
- Is there an appropriate schema of accountability?
- Are procedures fair, accessible, and open?
- Is the regulator acting with sufficient expertise?

¹⁴² The Multiple Land Use Framework will be examined in Chapter 3 of this thesis.

¹⁴³ Standing Council on Energy and Resources, *Multiple Land Use Framework* (2013) <<http://www.coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/Multiple%20Land%20Use%20Framework%20-%20Dec%202013.pdf>>.

¹⁴⁴ Robert Baldwin, Martin Cave and Martin Lodge, *Understanding Regulation: Theory, Strategy, and Practice* (OUP Oxford, 2012) 68.

¹⁴⁵ Richard Gordon, *Regulation and Economic Analysis: A Critique Over Two Centuries* (Springer, 1994).

- Is the action or regime efficient?¹⁴⁶

The mechanisms utilised to regulate behaviour include rules, expectations and codes of conduct. Regulations are often administered by an authoritative administrative body that promotes and monitors compliance through the imposition of sanctions or other penal options. Regulation is devised and recognised in three distinct yet overlapping categories, including economic regulation relating to market decisions to promote efficiency, social regulation promoting the public interest where the economic implications are likely to be secondary, and administrative regulations overseen by public agencies requiring, distributing and generating information.¹⁴⁷

Baldwin, Cave and Lodge make the additional distinction of regulation comprising of a specific set of commands where regulation involves the promulgation of a binding set of rules to be applied by a body devoted to this purpose and includes:

A deliberate state influence—where regulation has a more broad sense and covers all state actions that are designed to influence business or social behaviour; and all forms of social or economic influence—where all mechanisms affecting behaviour, whether these are state-based or from other sources, such as market forces, are deemed regulation.¹⁴⁸

Effective regulation is defined by the Council of Australian Governments as ‘standardising the exercise of bureaucratic discretion, so as to reduce discrepancies between government regulators, reducing uncertainty and lowering compliance costs. Regulatory measures should contain compliance strategies that ensure the greatest degree of compliance at the lowest cost to all parties’.¹⁴⁹

For the purpose of this thesis, the protection of agricultural land and improvement of agricultural landholders bargaining position during CCA negotiations are classified as social regulation due to the classification of agricultural assets and natural resource development as being in the public interest. UG is classified as both administrative and economic in regulatory nature as the promotion of resource activities and exploration promotes market and economic efficiency for the state and its citizens. Further, the administrative bodies and

¹⁴⁶ Robert Baldwin, Martin Cave and Martin Lodge, above n 144, 27.

¹⁴⁷ Peter Drahos, *Regulatory Theory: Foundations and Applications* (ANU Press, 2017).

¹⁴⁸ Jacint Jordana and David Levi-Faur, *The Politics of Regulation: Institutions and Regulatory Reforms for the Age of Governance* (Edward Elgar, 2004).

¹⁴⁹ Council of Australian Governments, *Best Practice Regulation: A Guide for ministerial Councils and National Standard Setting Bodies* (2007) 3.

tribunals, such as the Gasfields Commission (GC) in Queensland, act as direct monitors of UG activities via approvals and decisions as administrative policy bodies. It is recognised that regulation is required to safeguard the interests of parties with unequal bargaining power so they may negotiate effectively to protect their interests. As inequalities of bargaining power is the result of relative positions in the marketplace and asymmetries of information.

This thesis will critically analyse a number of fundamental aspects of Queensland's petroleum regulation to evaluate whether the current land access and land use regulatory framework is suited to achieve effective management of competing interests. In particular, this thesis will analyse how Queensland's petroleum policy, the legislative framework granting petroleum titles,¹⁵⁰ the award of land use approvals and the regulation of land access agreements have addressed the numerous challenges in exploiting UGR resources on agricultural land. Therefore, regulatory theory is a critical underpinning for the analysis of the legal framework and is considered in detail in Chapter 2.

1.8.3 Adaptive Management

The current regulatory approach to UGR in Queensland is largely based on adaptive management. Therefore a consideration of adaptive management is essential to provide a context for the use of adaptive management in regulation. Coglianese and Lazer recognise that management-based regulation:

Does not specify the technologies to be used to achieve socially desirable behavior, nor does it require specific outputs in terms of social goals. Rather, a management-based approach requires firms to engage in their own planning and internal rule-making efforts that are supposed to aim toward the achievement of specific public goals.¹⁵¹

Ecologists in British Columbia coined the term 'adaptive management' in the 1970s as 'a systematic process for continually improving ecological management policies and practices by learning from the outcome of operational programs'.¹⁵² One of the most critical elements of natural resource regulation is recurrent decisions, defined as decisions that need to be made on a regular basis in response to changing conditions and priorities with the aim of reducing

¹⁵⁰ Queensland's legislative framework includes the Principle Acts, enabling Regulations and the contractual framework between the participants. In Australia, petroleum titles are granted by the relevant government in advertised licencing rounds.

¹⁵¹ Cary Coglianese and David Lazer, 'Management-Based Regulation: Prescribing Private Management to Achieve Public Goals' (2003) 3(4) 7 *Law & Society Review* 691, 692.

¹⁵² James Oglethorpe, *Adaptive Management: From Theory to Practice* (IUCN, 2002).

ecological uncertainty.¹⁵³ Two alternating approaches in the adaptive management framework to achieve the reduction of uncertainty in those decision-making processes exist, namely, passive and active.

A passive adaptive management approach is based on optimisation by selecting differing management models and actions at a specific point in time.¹⁵⁴ The underlying assumption is that optimisation continues to be stable and constant over differing time periods. Conversely, active adaptive management anticipates optimisation via ‘learning’ and the underlying assumption that changes will occur and reoccur over time. Consequently, the anticipation of change and adaptation to it is the hallmark of active adaptive management.¹⁵⁵

The adaptive management process begins with ‘determining the management objectives and articulating clear statements of management intent against each objective e.g. through formal statements of Key Desired Outcomes. With the objectives and key desired outcomes clearly articulated, management can focus on developing and implementing appropriate strategies and actions to achieve the objectives and deliver the desired outcomes’.¹⁵⁶ Therefore, to be successfully applied as a regulatory approach, adaptive management must ensure flexibility, responsiveness and transparency within the broader regulatory framework to allow a state to alter its regulator approach in response to a changing regulatory climate, resource contains and, often, in sectors with scientific uncertainty.¹⁵⁷ This thesis will provide a critical review of adaptive management as a basis for creating regulatory tools to manage conflicting land interests in the development of UGR.¹⁵⁸

1.9 Limitations and Scope of Thesis

This thesis is confined to an analysis of the Queensland regulatory framework for resource contestation and conflict between agriculture and CSG extraction. It necessarily requires the

¹⁵³ Byron Williams and Eleanor Brown, ‘Adaptive Management: From More Talk to Real Action’ (2014) 53(2) *Environmental Management* 465; Byron Williams and Fred Johnson, ‘Confronting dynamics and uncertainty in optimal decision making for conservation’ (2013) 8(2) *Environmental Research Letters* 1.

¹⁵⁴ George Stankey, Roger Clark and Bernard Bormann, ‘Adaptive Management of Natural Resources: Theory, Concepts and Management Institutions’, General Technical Report PNW-GTR-654, August 2005.

¹⁵⁵ Conor McGowan, James Lyons and David Smith, ‘Developing Objectives with Multiple Stakeholders: Adaptive Management of Horseshoe Crabs and Red Knots in the Delaware Bay’ (2014) 55(4) *Environmental Management* 972.

¹⁵⁶ Glenys Jones, ‘The Adaptive Management System for The Tasmanian Wilderness World Heritage Area – Linking Management Planning With Effectiveness Evaluation’ in Catherine Allan and George Stankey (eds), *Adaptive Environmental Management* (Springer, Netherlands, 2009) 227, 237.

¹⁵⁷ Robert Argent, ‘Components of Adaptive Management’ in Catherine Allan and George Stankey (eds), *Adaptive Environmental Management* (Springer, Netherlands, 2009) 26.

¹⁵⁸ A critical examination of adaptive management can be found in Chapter two.

functional analysis of such conflict in other jurisdictions, namely British Columbia, that have already addressed similar issues on ALR lands relating to shale gas extraction. The similarities in the impacts of shale gas and CSG extraction on agricultural land enable such a comparison to occur.

The scope of this thesis does not extend to a regulatory examination of tight gas and shale gas reservoirs and activities either onshore or offshore in Queensland since, to date, none of these resources have been developed or are likely to be developed in the near future. Therefore, it is limited and primarily concerned with landholder arrangements and land use conflict in areas of active operations where conflict already exists. Concomitant, but nonetheless important regulatory issues such as water usage, environmental risks and scientific analysis are outside the scope of this thesis. Similarly, native title land ownership and rights are outside this scope of this thesis, since it is confined only to conflict and contestation with agricultural lands and, by the very definition of native title in Australia, agricultural activities are outside the scope of native title.

While the myriad of environmental regulation regarding CSG extraction also falls outside the confines of this thesis, the concept of Environmental Impact Assessments (EIAs) as a regulatory tool is explored in Chapter 2 as it underpins the key legislative instruments for land use and agricultural lands.

1.10 Thesis Structure

This thesis is comprised of six chapters. Chapter 1 provides an introduction, thesis hypothesis and research questions, methodology and contextual background to regulating UGR activities on agricultural land.

Chapter 2 examines the theoretical underpinnings and principles relating to UGR regulation, essential to analysing and comparing UGR regulatory systems of Queensland and British Columbia. Chapter 2 analyses the theoretical differences between rule-based and principles-based regulation and the appropriate selection of regulatory tools to deliver effective regulation. An analysis of regulatory failures due to regulatory burden is then discussed in identifying factors of poor regulatory design and tool choice in UGR regulation. Adaptive management theory, as the regulatory framework selected by Queensland for the regulation of UGR, is then analysed to highlight any potential regulatory failures in the current UGR regulatory regime of Queensland.

Chapter 3 provides a comparative analysis of Australia and Canada and their respective legal systems—essential if their respective UGR regulatory systems are to be compared. Firstly, Chapter 3 examines the role and importance of UGR and agriculture in each jurisdiction, including the parallel historical and political history of UGR activities in each state. The chapter then compares a number of indicia of each state, including the political system, UGR policy and legal framework. The intention of this comparison is to demonstrate the capacity to compare the UGR regulatory frameworks of the two jurisdictions based on their similar jurisprudential histories and socio-political systems and their similarities in regulating petroleum. The chapter also provides an analysis of Queensland's current UGR policy, seeking to identify whether an adaptive management approach has weaknesses, thereby discouraging the effective regulation of UGR activities on agricultural lands. As part of this analysis, the chapter examines the UGR framework of British Columbia, using the example of British Columbia's recent UGR policy to suggest potential changes in Queensland's UGR policies to encourage effective coexistence of competing interests.

Chapter 4 focuses on agricultural land use regulation. The chapter analyses the legislative approaches to regulating UGR in agricultural land use zoning regulations in Queensland and British Columbia. The chapter also compares whether the regulation of land use approvals for UGR activities on agricultural land through oversight administrative bodies or through regulatory administrative authorities is more likely to create effective regulation for implementing coexistence objectives. The chapter then analyses whether providing strong regulatory oversight and protection mechanisms in a specialised agricultural land protection administrative body and tribunal would be beneficial in achieving coexistence UGR objectives in Queensland.

Chapter 5 considers the role of UGR land access agreement regulation as a tool in managing conflicting interests. The chapter analyses whether Queensland's current regulation of land access and compensation agreements enables the State to optimise transparency, collaboration and regulatory effectiveness. Collective bargaining as an alternative regulatory tool is also analysed to determine whether it would be beneficial in reducing regulatory burden to agricultural landholders.

Chapter 6 provides a conclusion to the thesis, summarising the discussion and providing a final consideration of the thesis findings.

1.11 Thesis Contribution

The contribution of this thesis is in the application of alternative UGR regulatory tools in managing coexistence to improve Queensland's current UGR regulatory framework. With CSG to be developed in New South Wales to ease the East Coast Gas shortage, examination of Queensland's legislative framework's ability to protect land interests is timely.¹⁵⁹ It is intended this thesis will also contribute to the wider study of UGR regulation in considering how land has developed and exists in Queensland in response to legal issues related to UGR development, namely the impact of UGR on agricultural land and concerns over land use, access and compensation.

While significant empirical research exists in Australia relating to the sociological and scientific impacts of CSG and agricultural coexistence, there has been little functional comparative legal research concerning Queensland's UGR framework at both land use and land access levels. Therefore, this thesis is the first in providing an in-depth functional analysis relating to coexistence and land use.

Regulatory concern about the development of UGR in Queensland relating to land and incorporated damage to productive farming land, land access and compensation are not unique to Queensland. It is intended that the insights provided by this thesis may hold relevance for future regulatory directions in managing conflicting interests and avoiding regulatory burdens in Queensland and other jurisdictions undertaking the development of UGR, as it provides an examination of varying styles of regulation for these activities.¹⁶⁰

For Queensland to sustain a position of global competitiveness, the Queensland Government recognises the pressing need to create a cross-government regulatory system that encourages industry development, improves appliance and will not result in a diminution of landholder

¹⁵⁹The Narrabri Gas Project Application by Santos, including the Environmental Impact Statement, to the NSW Government is currently under assessment. Santos estimates the Project could supply up to 50% of NSW natural gas needs and deliver substantial benefits to the local community and the state. Santos, *Narrabri Gas Project* (2017) <<https://www.santos.com/what-we-do/activities/new-south-wales/gunnedah-basin/narrabri-gas-project/>>.

New South Wales Government, *NSW Gas Plan Protecting What's Valuable Securing our Future* (2014) <https://www.resourcesandenergy.nsw.gov.au/_data/assets/pdf_file/0005/534830/NSW-Gas-Plan.pdf>.

¹⁶⁰ Similar regulatory concerns have been raised in the United Kingdom and United States. United Kingdom, *Task Force on Shale Gas, First Interim Report: Planning, Regulation and Local Engagement* (25 March 2015) <<https://www.taskforceonshalegas.uk/reports/first-report>>; Tina Hunter and John Paterson, 'Prevention of and Response to Shale Gas Well Incidents: An Assessment of the Current UK Regulatory Framework for Shale Gas Activities' (2014) (3) *Oil, Gas & Energy Law Intelligence* (online).

rights.¹⁶¹ This thesis provides an analysis of Queensland's current UGR regulatory framework to identify any regulatory gaps and considers alternative regulatory tools to achieve the effective regulation balancing interests that the Queensland Government envisages.¹⁶²

¹⁶¹ Queensland Government, Department of Natural Resources and Mines, *Queensland Gas Supply and Demand Action Plan Discussion Paper* (2016) 12.

¹⁶² *Ibid.*

CHAPTER 2: PRINCIPLES RELATING TO THE REGULATION OF UNCONVENTIONAL GAS RESOURCES

2.1 Introduction

Chapter 1 discussed the general parameters, comparative functional methodology and regulatory scope of this thesis. Prior to analysing and comparing regulatory functions in two jurisdictions, it is useful to evaluate the regulatory principles and concepts underlying such a comparative analysis.¹ The foundational theoretical basis of this thesis is discussed in this chapter, including and drawing upon the concepts of principles-based and rule-based regulation that a state may employ in regulating its respective UGR sector while managing a multitude of legal interests.

Regulations of UGR define the role and conduct regulating UGR exploitation and encompass legal instruments such as primary legislation, subordinate legislation and policy guidelines. The purpose of this chapter is to examine and outline differing regulatory theories and tools as fundamental in the administration of UGR activities by the state. Such an examination of regulation and the associated principles is essential to provide a theoretical and contextual framework for the functional comparative analysis of current UGR regulation of land use and land access in Queensland.

This chapter commences with an examination of differing regulatory theories and tools that may be utilised in the state administration and regulation of UG activities. The Queensland Government has asserted its UGR regulation is based on the principles of adaptive environmental management. The hallmarks of an effective adaptive management approach will then be outlined and assessed, examining whether this regulatory approach is effective in addressing the multiple interests associated with UGR exploitation.

The question of what constitutes an effective regulatory framework for UGR development in managing conflicting land interests in the extraction of UG in Queensland is divided into two main questions addressed in this chapter. First, is the question of intention—what is the explicit legislative objective of the regulation? Such a question is examined by comparing and contrasting two types of regulatory frameworks—principles-based and rule-based regulation.

¹ Andrew Harding and Esin Örüci, *Comparative Law in the 21st Century* (Kluwer Academic, 2002).

Second, is the question of the effect of ineffective regulatory tools giving rise to regulatory failure in the form of regulatory burdens and gaps?

Finally, this chapter observes the notion of public and private ownership applicable to petroleum under the guidance of state to exploit and develop its UGR 'in the public interest'. In doing so, this chapter addresses the many roles of the state as arbiter, legislator, advocate, monitor, contractor and service provider in the context of UGR development and the shifting role of the state in responding to changing political, social, economic and environmental factors.

2.2 Better Regulation as Effective Regulation

Regulation, as defined by Selznick, concerns the 'sustained and focused control exercised by a public agency over activities that are valued by the community'.² The important elements of sustained and focused regulatory action implied in this definition illustrate intention taken with an explicit regulatory aim. As stated by Freiberg:

The action is taken after a process, in which the goal, the regulatory action, and the consequences of taking the action, are related in meaningful ways. In other words, regulation is purposive and instrumental. It is intended to solve problems.³

Black's definition of regulation expands upon Selznick's explanation in her widely cited definition of regulation as 'the sustained and focused attempt to alter the behaviour of others according to defined standards and purposes with the intention of producing a broadly identified outcome or outcomes'.⁴ Regulatory intention, as defined by Freiberg, is considered a primary purpose of regulation.⁵

Regulation is distinguished from the larger scope of public policy consisting of government processes to identify and respond to social problems.⁶ This is opposed to regulation as a form or subset of public policy designed with an emphasis on intervention in the public policy

² Phillip Selznick, 'Focusing Organisational Research on Regulation' in Roger Noll, *Regulatory Policy and the Social Sciences* (University of California Press, 1985) 363, 363.

³ Arie Freiberg, *Regulation in Australia* (The Federation Press, 2017) 4.

⁴ Julia Black, 'Regulatory Conversations' (2002) 29(1) *Journal of Law and Society* 163, 170.

⁵ Freiberg, above n 3.

⁶ Sarah Maddison, Richard Denniss, *An Introduction to Australian Public Policy: Theory and Practice* (Cambridge University Press, 2nd ed, 2013).

arena.⁷ Therefore, regulation occupies a narrower scope than governance. As discussed by Braithwaite, Coglianese and Levi-Faur, governance differs from regulation:

Government and governance are about providing, distributing, and regulating. Regulation can be conceived as that large subset to government that is about steering the flow of events and behaviour, as opposed to providing and distributing. Of course, when regulators regulate, they often steer the providing and distributing that regulated actors undertake as well...it often makes sense to regard regulation as more narrow than governance.⁸

A core concept defining contemporary regulation is the management of conflicting interests intended to manage disparate stakeholders and ‘communities’, as suggested by Selznick’s regulatory definition.⁹

Snir describes the regulatory task of the state as increasingly ‘orchestrated’ in pursuing ‘public goals by promoting and empowering a network of public, private sector, and civil society actors and institutions, all of which are encouraged to engage in various “regulatory” (including self-regulatory) activities’.¹⁰ This differs significantly from the interwar period, when the state acted solely as arbiter of the command and control economy and was highly protective of domestic industries through tariffs,¹¹ industry assistance¹² and state-owned ownership of corporations.¹³

Since this period, Australia has steadily moved to a market-led economy creating a ‘deregulated’, ‘modern regulatory state’¹⁴ where the state acts as a ‘light touch’ regulator to facilitate and monitor the activities of a market-led economy.¹⁵ From the post-war period onwards, Australian regulatory reform encouraged the lowering of tariff barriers and abolition of state-controlled trade boards encouraging a reinterpretation of the state’s role in the public

⁷ Michael Howlett, *Designing Public Policies: Principles and Instruments* (Routledge, 2010) 16.

⁸ John Braithwaite, Cary Coglianese, David Levi-Faur, ‘Can Regulation and Governance Make A Difference?’ (2007) 1(1) *Regulation and Governance* 1, 3.

⁹ Selznick, above n 2, 363-364.

¹⁰ Reut Snir, ‘Trends in Global Nanotechnology Regulation: The Public-Private Interplay’ (2014) 17 *Vanderbilt Journal of Entertainment & Technology Law* 1, 19.

¹¹ The Tariff Board was established in 1921 in Australia to advise on taxes and subsidies.

¹² *Industries Assistance Omission Act 1973* (Cth).

¹³ See for example *State Owned Corporations Act 1989* (NSW); Stephen Bottomley, Kath Hall, Peta Spender, Beth Nosworthy, *Contemporary Australian Corporate Law* (Cambridge University Press, 2017).

¹⁴ John Braithwaite, *Neoliberalism of capitalism* (2005) <https://www.anu.edu.au/fellows/jbraithwaite/documents/Articles/Neoliberalism_Regulatory_2005.pdf>. For further theoretical discussions of the Modern Regulatory State of deregulation, see James E Anderson, *Emergence of the Modern Regulatory State* (Public Affairs Press, 1963).

¹⁵ David Osborne & Ted Gaebler, *Reinvesting Government* (Addison-Wesley, 1992).

and private sphere, which ‘efficiently delivered and exposed (market) competition’.¹⁶ Guided by the emergence of neoliberal deregulation philosophies, Australian regulators have ascribed to the regulatory norms proposing that governments must ‘steer’ rather than ‘row’ economies in its regulatory policymaking.¹⁷

‘Steering’ the flow of events in regulation necessarily involves decisions about outcomes as they relate to the public and private sphere—that is, what is ‘good’ and, consequently, ‘effective’ regulation. A response to the question of ‘good regulation’ is offered by Breyer.¹⁸ Breyer’s methodology is essentially linear and functional in defining a problem, method and objective in regulation. However, this is a broad framework focusing on economic regulation and does not offer a sophisticated analysis of the impact of the regulatory objective. Breyer’s methodology has been criticised as insufficient to manage contemporary regulatory issues that are presented to legislators.¹⁹

Kolieb introduces the concept of enforcement as an aspect of regulatory intention, to compel and hold accountable actors within the regulatory system.²⁰ However, while compliance is an element of the regulatory process, it is not, in and of itself, the definition and exclusive use of ‘good regulation’ regulation.²¹ The ‘better regulation’ movement has emerged over the past two decades as an attempt to make a terminological and philosophical switch from deregulation to ‘better regulation’.²² The concept argues that ‘better regulation’ is necessary and that only bad regulation, as opposed to regulation in general, was burdensome.²³ Freiberg identifies the development of ‘better’ regulatory strategies, including responsive regulation and risk-based regulation which has given recognition to the importance of ‘evidence and consultation in the regulatory cycle and a more systematic and principled approach to compliance and enforcement’.²⁴ In contrast, Levi-Faur confines the definition of regulation to

¹⁶ Paul Kelly, *The End of Certainty: Power, Politics and Business in Australia* (Allen & Unwin, 2008).

¹⁷ Brian Head and Elaine McCoy, *Deregulation Or Better Regulation?: Issues for the Public Sector* (Macmillan Education, 1991); Geoffrey Brennan and Francis G. Castles, *Australia Reshaped: 200 Years of Institutional Transformation* (Cambridge University Press, 2002).

¹⁸ Stephen G. Breyer, *Regulation and its Reform* (Harvard University Press, 2009); Stephen G. Breyer, *Breaking the Vicious Circle: Toward Effective Risk Regulation* (Cambridge, 1993).

¹⁹ Eric J. Gouvin, ‘A Square Peg in a Vicious Circle: Stephen Breyer’s Optimistic Prescription for the Regulatory Mess’ (1995) 32 *Harvard Journal on Legislation* 473.

²⁰ Johnathon Kolieb, ‘When to Punish, When to Persuade and When to Reward: Strengthening Responsive Regulation with the Regulatory Diamond’ (2015) 41(1) *Monash Law Review* 136.

²¹ *Ibid*, 145.

²² Stephen Weatherill, *Better Regulation* (Bloomsbury Publishing, 2007).

²³ Robert Baldwin, ‘Is Better Regulation Smarter Regulation?’ (2005) *Public Law* 485.

²⁴ Freiberg, above n 3, 157.

‘prescriptive rules and the monitoring and enforcement of these rules by social, business and political sectors on other social, business and political actors’.²⁵

The elements to encourage ‘better’ and more effective regulation include:

- 1) clarifying regulatory objectives and definitions of problems
- 2) ensuring that regulatory objectives are achieved effectively
- 3) identifying alternative options for achieving desired objectives.²⁶

The regulatory objectives of the State in Queensland’s UGR regulatory regime is analysed in Chapter 3 and alternative regulatory tools as options for change in Chapters 4 and 5.

2.3 Rule-Based and Principles-Based Regulation Compared

The regulation of UGR resources can be characterised by the use of either rule-based regulation, typically consisting of detailed prescriptive and coercive rules, or principles-based regulation, which is outcome orientated relying on broadly stated principles or objectives. Formal rules are an efficient way to organise modern and complex communities. As Freiberg states, rules ‘guide behaviour, communicate information or values and can represent public declarations of principles or policies’.²⁷ Rules can also enhance legitimacy via increased compliance and elevating a regulatory decision beyond the decision-makers.

However, rule-based regulation holds limitations. The simple adoption of rules in legislation does not necessary ensure compliance nor does rule-based regulation demonstrate measurement or consideration of alternative, less interventionist controls in enforcement strategy.²⁸ Rules are not self-interpreting or self-enforcing and, thus, there is often a difference between legislation as ‘law in the books’ and the application of ‘law in action’—legislation operative in managing specific regulatory problems.²⁹ Therefore, the formal design of rule-based regulation may not attend to implementation and enforcement issues.

²⁵ David Levi-Faur, *Handbook on the Politics of Regulation* (Edward Elgar Publishing, 2011) 122.

²⁶ Robert Baldwin, ‘Better Regulation: Tensions Abroad the Enterprise’ in Stephen Weatherill, *Better Regulation* (Bloomsbury Publishing, 2007) 27, 34.

²⁷ Arie Freiberg, *The Tools of Regulation* (Federation Press, 2010).

²⁸ Baldwin, above n 23.

²⁹ As examined in Chapter one of this thesis.

The Harper Report³⁰ also notes the problems of a lack of responsiveness inherent in rule-based regulation:

There is a natural tension between designing specific laws and regulations to deal with problems that emerge at a point in time and building in flexibility to cope with changing market circumstances as they arise. Laws that are less predictable in their immediate application may nevertheless prove more reliable over time as they are adapted through the judicial process to encompass novel developments...the more tightly specified our laws, the more likely they are to lag behind developments in markets and possibly act against the long-term interest.³¹

Rules are defined by Baldwin as a ‘general norm mandating or guiding conduct or action in a given type of situation’.³² The purpose of rule-based legislation can be broadly described as detailed and prescriptive ‘command and control’³³ regulation. Rule-based legislation has historically been adopted and supported by the petroleum sector, borne out of the need to ensure coercive compliance of natural resource sectors. This creates a petroleum regulatory landscape consisting of a suite of primary and subordinate legislation and administrative and policy decisions to regulate the licensing, exploration and development of petroleum.

According to Freiberg, rule-based or prescriptive regimes are most appropriate where there is a single, commonly agreed means of controlling a hazard or risk.³⁴ However, rule-based natural resource legislation tends to require new rules ‘every time a new regulatory situation arises’,³⁵ such as the creation of new technologies giving rise to new stakeholder conflicts of interest, which may add complexity, delay and duplication in a regulatory framework. Traditionally, regulators have relied upon rule-based regulation as a statement of a rule that specifies in relatively precise terms what is required to be done. In this case, enforcement focuses upon adherence to the rules and standards that are presumed to bring about the regulatory aim.³⁶ Traditionally, rule-based regulation has been adopted in sectors where risks to public health, safety and wellbeing are an issue.³⁷

³⁰ Commonwealth of Australia, *Harper Competition Policy Review Final Report* (2015) <<http://competitionpolicyreview.gov.au/final-report/>>.

³¹ Ibid, 27.

³² Robert Baldwin, *Rules and Government* (Clarendon Press, 1995) 7.

³³ Black, above n 4, 163

³⁴ Arie Freiberg, above n 27.

³⁵ Tina Hunter, Submission No 9 to the Productivity Commission, *Regulatory Burden on the Upstream Petroleum (Oil and Gas) Sector*, August 2008 10.

³⁶ Robert Baldwin, Martin Cave and Martin Lodge, *The Oxford Handbook of Regulation* (Oxford University Press, 2010).

³⁷ Zakari Mustapha, Clinton Aigbavboa, Wellington Thwala, *Contractor Health and Safety Compliance for Small to Medium-Sized Construction Companies* (CRC Press, 2017).

In contrast, principles-based regulation is outcome orientated and describes the method of achieving a regulatory outcome by setting a general objective, standard or duty without specifying the means of achieving that outcome in absolute terms. This encourages consideration of alternative regulatory methods in the ‘better regulation toolkit’,³⁸ in which other administrative bodies and quasi-judicial entities may interpret the meaning of regulatory principles and drive enforcement of regulation. As stated by the Australian Law Reform Commission:

Principles-based regulation can be distinguished from rules-based regulation in that it does not necessarily prescribe detailed steps that must be complied with, but rather sets an overall objective that must be achieved. In this way, principles-based regulation seeks to provide an overarching framework that guides and assists regulated entities to develop an appreciation of the core goals of the regulatory scheme. A key advantage of principles-based regulation is its facilitation of regulatory flexibility through the statement of general principles that can be applied to new and changing situations. It has been said that such a regulatory framework is exhortatory in that it emphasises a ‘do the right thing’ approach and promotes compliance with the spirit of the law.³⁹

The application of rule-based compared to principles-based regulation has been an ongoing scholarly debate applied to the measure of effective regulation.⁴⁰ Specifically, in the context of the petroleum sector, a regulatee may be the subject of overlapping or competing rules derived from federal, state and local governments or from different government agencies in respect of one activity or business. It is this tendency towards prescription rather than interpretation that creates the main criticism and limitation of a rule-based legislation system.

A central critical element of rule-based regulatory systems is the promulgation of detailed rules to regulate behaviour which can give rise to regulatory inconsistencies, rigidity and the event of ‘creative compliance’ and ‘box ticking’ exercises and, thus, undermine the regulatory objectives of the regime while following detailed rules ‘to the letter’ and finding ways to ‘evade their spirit’.⁴¹ Thus, Baldwin identifies rule-based regulation as inappropriate to address regulatory issues in a changing and complex sector.⁴² This is due to the nature of over-prescriptive regulation encouraging ‘legalism’ and promoting delay by inhibiting a

³⁸ Baldwin, above n 26, 36.

³⁹ Australian Government, *For Your Information: Australian Privacy Law and Practice* (2008) <<https://www.alrc.gov.au/publications/4.%20Regulating%20Privacy/regulatory-theory>>.

⁴⁰ Eric Windholz, *Governing Through Regulation: Public Policy, Regulation and the Law* (Taylor & Francis, 2017).

⁴¹ Baldwin, Cave and Lodge, above n 36.

⁴² Baldwin, above n 32, 31.

dynamic approach in which regulatory strategies stay attuned to changing circumstances without the need to constantly revise regulation. However, the opposite is also true; under-inclusive regulation will allow undesired activity to continue through incorrect problem identification, inadequate information or poor legislative drafting. Consequently, there is ongoing tension between the over-prescriptive and under-inclusive role of regulation and the role of the state in finding the correct balance between two extremes in creating ‘better’—that is, effective—regulation.

Effective regulation states principles or objectives to set the standards by which natural resource companies conduct their operations.⁴³ Principles are defined as ‘general rules...(that are) implicitly higher in the implicit or explicit hierarchy of norms than more detailed rules: they express the fundamental obligations that all should observe’.⁴⁴ Under this form of regulation, there is a reference to general rules that express fundamental obligations that the participants should observe.⁴⁵ Black illustrates that principles-based regulation relies on and reinforces the image of the self-observing responsible organisations.⁴⁶ This involves a continuing regulatory discussion between regulators and proponents regarding the meaning and application of the rules. A measure of success of regulation is the trust in the competence and responsibility of the regulatees.

Principles-based regulation encourages regulatees to assume responsible approaches beyond box-ticking by private stakeholders and towards ‘firms and their management [being] free to find the most efficient way of achieving the outcome required’.⁴⁷ Principles-based regulation helps to avoid the practice of ‘creative compliance’ by incorporating reflexive, dynamic and continuous regulatory coordination and change, rather than the operation of a single fixed design.⁴⁸ This produces a regulatory system that is more effective and sustainable in the face of changing circumstances and complex technological developments in industries such as petroleum exploration. Effective principles-based regulation also requires a close engagement relationship between regulators and stakeholders based on mutual trust, transparency and

⁴³ Robert Baldwin, Martin Cave and Martin Lodge, above n 36.

⁴⁴ Julia Black, *Principles Based Regulation: Risks, challenges and opportunities*, (2007) LSE Research Online <http://eprints.lse.ac.uk/62814/1/_lse.ac.uk_storage_LIBRARY_Secondary_libfile_shared_repository_Content_Black,%20J_Principles%20based%20regulation_Black_Principles%20based%20regulation_2015.pdf> 3.

⁴⁵ Julia Black, *Ibid*, 6-7.

⁴⁶ Julia Black, ‘Forms and Paradoxes of Principles-based Regulation’ (2008) *LSE Legal Studies Working Paper No. 13/2008* 3(4).

⁴⁷ Julia Black, ‘Managing Regulatory Risks and Defining the Parameters of Blame: A Focus on the Australian Prudential Regulatory Authority’ (2006) 28(1) *Law & Policy* 1.

⁴⁸ James Spigelman, ‘The Rule of Law and Enforcement’ (2003) 26(1) *UNSW Law Journal* 200, 304.

encouraging proponents to go beyond minimal compliance. For example, dialogue, regulatory requirements, outcomes and goals are clearly communicated, understood and interpreted and, consequently, the enforcement regime is one that can be justified to both regulatees and policymakers.⁴⁹

Principles-based regulation has received criticism as ‘light-touch’ regulation and, as such, is sufficiently discredited to demand a change of regulatory tack.⁵⁰ Baldwin defends the principles-based regulatory paradigm in arguing that effective principles-based regulation allows regulators to concentrate not on compliance with precise rules, but on the proponent finding ways to manage the relevant risks to serve principles governing the system.⁵¹ Conversely, rule-based regulation places the proponent as an adversary, constantly testing and finding methods to check and reinterpret regulatory inconsistencies, requiring constant amendments and updates to accommodate new legal issues. Whichever system of regulation a state chooses, it must be able to regulate the specific industry, but also respond to unique issues and conflicting stakeholder interests effectively.⁵²

Therefore, the principles of effective regulation suggests that opportunities for a ‘win-win’ regulatory outcome can be maximised so that, for instance, oil and gas corporations can behave responsively while maximising profits and rental return to the state.⁵³ Regulatory implementation tools set the standards by which UGR activities are conducted and can form the basis for the creation of administrative bodies and the enactment of legislation to implement governmental policies.⁵⁴

2.4 Regulatory Tools

The concept of regulatory tools and approaches gained prominence in the 1990s as a theory used to analyse the extent to which regulatory behaviour and style is linked to the relationship

⁴⁹ Robert Baldwin, ‘Why Rules Don’t Work’ (1990) 53 *Modern Law Review* 321; R. Kagan and J. Scholz, ‘The Criminology of the Corporation and Regulatory Enforcement Strategies’, in K.O Hawkins and J.M. Thomas, (eds) *Enforcing Regulation* (Kluwer Boston, 1984).

⁵⁰ Niamh Moloney, Eilís Ferran and Jennifer Payne, *The Oxford Handbook of Financial Regulation* (Oxford University Press, 2015). Some commentators attribute the Global Financial Crisis with ‘Light Touch’ principles based regulation.

⁵¹ Robert Baldwin, Cave and Lodge, above n 36, 303.

⁵² Freiberg, above n 3, 203.

⁵³ Michael E. Porter and Claas Van Der Linde, ‘Towards a New Conception of the Environment- Competitiveness Relationships’ (1995) 9 *Journal of Economic Perspectives* 97; James Gobert and Maurice Punch, *Rethinking Corporate Crime* (Butterworths, 2003).

⁵⁴ The regulatory tools selected to regulate land use and land access will be analysed in Chapters four and five of this thesis respectively.

and distance between regulators and regulatees.⁵⁵ Regulatory tools are defined as the wide array of instruments deployed by the state to deliver effective regulation and are often used as an indicia of the impact of regulatory measures.⁵⁶ The Australian National Audit Office upholds the notion of regulatory instruments as ‘a key tool for achieving the social, economic and environmental policy objectives of governments’.⁵⁷

The concept of a regulatory tool or instrument of government action is broadly defined by Salamon as ‘an identifiable method through which collective action is structured to address a public problem’.⁵⁸ Landry and Varone also offer a wide-ranging definition of regulatory tools as a ‘means of intervention by which government attempts to induce individuals and groups to make decisions and take actions compatible with public policies’.⁵⁹ Morgan and Yeung classify regulatory tools via a number of differing instruments based on the modality of control of the sector being regulated, including command (rule-based legislation), competition (economic instruments), communication (social norms), consensus (contracts and self-regulation) and code (techno regulation).⁶⁰

The rule-based regulation command and control style, previously discussed in Section 2.3, is a historically grounded tool of regulation whereby the state acts as legislator in its role of creating and enforcing laws.⁶¹ As previously discussed, Freiberg articulates that this style of regulation is flawed, based on the concept of government as rule-maker, as it fails to recognise state regulation of complex and non-linear approaches to achieving regulatory outcomes.⁶² A second flaw identified in the state as sole regulator is the failure to recognise the role of markets, associations and networks as sites of regulation in partnership with state regulation.⁶³

⁵⁵ Christopher Hood, Oliver James, George Jones, Colin Scott, and Tony Travers, *Regulation Inside Government: Waste-Watchers, Quality Policy and Sleazebusters* (Oxford University Press, 1999).

⁵⁶ Claire A. Dunlop and Claudio M. Radaelli, *Handbook of Regulatory Impact Assessment* (Edward Elgar, 2016).

⁵⁷ National Audit Office, *Administering Regulation: Achieving the Right Balance* (2014) <https://www.anao.gov.au/sites/g/files/net616/f/2014_ANAO%20-%20BPG%20Administering%20Regulation.pdf>.

⁵⁸ Lester Salamon, *The Tools of Government: A Guide to the New Governance* (Oxford University Press, 2002), 19.

⁵⁹ Rejean Landry and Frederic Varone, ‘Choice of Policy Instruments: Confronting the Deductive and the Interactive Approaches’ in Pearl Eliadis, Margaret Hill and Michael Howlett, *Designing Government: From Instruments to Governance* (McGill-Queens Press, 2005) 106-132, 105.

⁶⁰ Bronwen Morgan and Karen Yeung, *An Introduction to Law and Regulation: Text and Materials* (Cambridge University Press, 2007), 80.

⁶¹ Arie Freiberg, above n 3, 208.

⁶² Arie Freiberg, ‘Restocking the Regulatory Tool-Kit’ (2010) *Jerusalem Papers in Regulation & Governance* Working Paper 15, 83.

⁶³ Julia Black, ‘Critical reflections on Regulation’ (2002) 27 *Australian Journal of Legal Philosophy* 1.

In comparison to rule-based regulation, theorists argue the role of effective and ‘better’ regulation incorporates the principle of the state for not only legislators, but also contractors, grantors, purchasers and controllers of the flow of information.⁶⁴ This predisposes regulators to collaborate with other stakeholders to regulate and influence through a myriad of tools other than rules. Therefore, principles-based regulatory tools may be ongoing or continuous, through the granting of licensing approvals to undertake activities in specifically zoned areas, as is the case in the petroleum sector in agricultural land zones, to achieve a continuous regulatory effect to monitor private actors.⁶⁵

As highlighted by Wiseman in the US context, effective regulation must select the appropriate regulatory tool to create efficient regulation:

If we are to rely on experimentation as a justification for federalism, as well as a tool to create better, more efficient, and fairer policy, then we must ensure that a solid information baseline emerges along with the experiment. Without this guarantee, the regulatory islands described here will continue to experiment blindly and in isolation, to the detriment of their constituents and the nation as a whole.⁶⁶

Within the theoretical underpinnings of rule-based or principles-based regulation are the specific functional tools that may be selected by regulators to enact regulatory policy and improve the quality of the regulatory environment. According to Freiberg, governments can be regarded as having many roles—‘as authorisers, facilitators, economic actors, trading partners and information providers’.⁶⁷ The tools of government that can be employed to produce behaviour change include economic, transactional, authorisation, informational and structural.

Regulatory tools for the oversight of petroleum exploitation selected by the state traditionally incorporates ‘authorisation’.⁶⁸ The authorisation method deploys six key regulatory tools—licensing, permits, registration, certification, accreditation and litigation.⁶⁹ Chapters 4 and 5 of this thesis provide a detailed analysis of authorisation regulatory tools utilised in Queensland

⁶⁴ Julia Black, Martyn Hopper and Christa Band, ‘Making a Success of Principles-Based Regulation’ (2007) 1 (3) *Law and Financial Markets Review* 191; Vincent Di Lorenzo, ‘Principles-Based Regulation and Legislative Congruence’ (2012) 14 *New York Journal of Legislation and Public Policy* 45.

⁶⁵ Land use zoning as a regulatory tool is examined in detail within Chapter Four of this thesis.

⁶⁶ Hannah Wiseman, ‘Regulatory Islands’ (2014) 89 *New York University Law Review* 1697, 1742.

⁶⁷ Arie Freiberg, ‘Re-Stocking the Regulatory Tool-Kit’ (Paper presented at Regulation in an Age of Crisis, Dublin, 17-19 June 2010) 4.

⁶⁸ Other regulatory methods include, for example, structural regulation which incorporates (1) physical; (2) environmental (3) process and (4) computer-assisted and algorithmic regulatory tools. Structural regulation is typically used in geo-spatial regulations. See Freiberg, above n 3, 201.

⁶⁹ Freiberg, above n 3, 201.

such as petroleum licensing, registration of land use zoning permits, land access agreements as contractual certification to undertake UGR activities on agricultural land and litigation avenues during land use and land access agreements.

2.5 Regulatory Failures

Regulatory failure, considered broadly, occurs when ‘the law imposes unnecessary complexity costs on diffuse, poorly organized groups to the advantage of politically influential groups that benefit from that complexity...by re-evaluating existing regulations agencies can simplify their rules and ease unnecessary regulatory burdens’.⁷⁰ Black classifies regulatory failures as a subset of policy failures resulting from the ‘unintended and unforeseen consequences of the design and/or operation of a regulatory system and its interactions with other systems’.⁷¹ Regulatory failures typically arise from poor regulatory design, poor regulatory tool choice and failure to achieve a broadly defined goal or set of goals.⁷²

Regulatory failure then broadly encompasses the inability to satisfy underlying policy objectives, creating unnecessary costs and eroding the general confidence in the regulatory system and the rule of law itself.⁷³ Freiberg identifies the key attributable attributes of regulatory failure as:

- 1) regulatory bad design
- 2) inadequate consultation
- 3) poor or ineffective implementation
- 4) conflict and confusion
- 5) failure to clearly identify appropriate targets for regulation
- 6) poor tool choice
- 7) poor or ambiguous rules or laws
- 8) ambiguity in forms of regulation
- 9) procedural injustice

⁷⁰ Peter Schuck, *Why Government Fails So Often: And How It Can Do Better* (Princeton University Press, 2014) 405.

⁷¹ Julia Black, *Learning from Regulatory Disasters, Society and Economics Working Papers* 24//2014 (2014) London: London School of Economics, Department of Law, 11.

⁷² Black, *ibid*, 11.

⁷³ Organisation for Economic Co-Operation and Development (OECD), *Regulatory performance: Ex post Evaluation of Regulatory Tools and Institutions*, (OECD, 2004).

10) regulatory capture.⁷⁴

These ten attributes provide a comprehensive framework to identify and codify regulatory failure.

Thus, regulatory failures inherently stems from bad regulatory design and poor tool choice and results in ambiguous rules, poor of ineffective implementation, failure of clear targets and conflict and confusion and procedural injustice.

First, regulatory conflict emerges when regulation of the same conduct is applied by numerous different regulators at the local, state and federal level. This can result in differing objectives, techniques and tools which may create duplication, complexities and contradictions that work against the achievement of the regulatory outcome.⁷⁵ Second, poor tool choice emerges where the regulatory tool chosen does not align with or deliver a successful and effective framework to achieve the specific policy objective of the state.⁷⁶

Learning from regulatory failure due to poor tool choice and bad regulatory design in particular creates a basis for functional exchange between jurisdictions with similar institutional structures, socio-historic foundations and sector-specific regulatory imperatives, forming readily transferrable alternative regulatory designs.⁷⁷ By undertaking an analysis of the Queensland regulatory framework in the following chapters it is possible to learn from regulatory failures to ensure improvement in future regulation of land use and land access.

Regulatory gaps appear when regulatory responsibilities between multiple legislation and governmental agencies are not clear and regulatory failure, due to bad regulatory design and poor tool choice, is evident.⁷⁸ One of the outcomes of regulatory gaps in the petroleum sector is highlighted by the Australian Petroleum Production and Exploration Association (APPEA):

There has been considerable public confusion around the respective responsibilities of the Federal and State Governments, and of State Departments, for overseeing regulatory inspections, assessments and approvals. It is essential for effective and efficient regulation of critical supply industries, and for effective and efficient

⁷⁴ Freiberg, above n 3, 489.

⁷⁵ Peter Grabosky, 'Counterproductive Regulation' (1995) 17(3) *Law and Policy* 257.

⁷⁶ Freiberg, above n 3.

⁷⁷ Clifford Winston, *Government Failure versus Market Failure: Microeconomics Policy Research and Government Performance* (2006, AEI-Brookings Joint Center for Regulatory Studies).

⁷⁸ Australian Productivity Commission, *Review of Regulatory Burden on the Upstream Petroleum (Oil and Gas) Sector* 2009 < <https://www.pc.gov.au/inquiries/completed/upstream-petroleum/report/upstream-petroleum.pdf> > 209.

governance, that the public and other stakeholders are able to identify and have confidence in the responsible regulator.⁷⁹

By identifying regulatory gaps and reviewing regulations, regulatory burdens can be identified to ascertain the basis of regulatory needs not being met by certain stakeholders.

Regulatory burdens are defined as ‘burdens that can be removed without compromising desirable outcomes such as relating to resource management, the environment, heritage, development, land access and occupational health and safety’.⁸⁰ The Australian Productivity Commission (PC) proposes criteria to reduce unnecessary regulatory burden through regulatory reforms:

- streamline regulation by reducing the need for multiple agency approvals and remove duplication of assessment and reporting requirements
- avoid, where possible, arrangements that involve multiple agencies and, where multiple agencies have to be involved, have in place clear administrative arrangements to avoid or minimise unnecessary overlap in regulatory functions
- avoid unnecessary inconsistencies in regulatory requirements or decision-making within and across jurisdictions
- provide regulators with clear regulatory objectives and minimise unnecessary conflicts of interest
- consolidate specialist expertise and promote efficient use of resources.⁸¹

Although these reforms were proposed and outlined by the PC in relation to the upstream offshore petroleum sector in Australia, the concepts of regulatory burden and gaps are equally applicable to Queensland’s upstream onshore UGR due to the similarities in licensing procedures, departmental oversight and regulatory overlap in both offshore and onshore UGR sectors in Australia.

The upstream petroleum sector licensing regime involves a number of processes as described by Bunter:

The identification by government of potential (upstream) petroleum investment opportunities in the national territory, their subdivision into discrete contract areas of

⁷⁹ APPEA (Australian Petroleum Production and Exploration Association), *Australia’s Upstream Oil and Gas Industry: A Platform for Prosperity, Issues Paper* (2006) 18.

⁸⁰ Australian Productivity Commission, above n 78, III.

⁸¹ Ibid.

prospective size, their offering to the international oil companies by a suitable tendering process and the establishment and negotiation of technical, financial and contractual terms and conditions (for award) consistent with their petroleum prospectively and with the national interest.⁸²

Wiseman categorises ‘regulatory islands’ within the US, particularly in relation to oil and development, as regulatory states with inherent regulatory burden and gaps due to poor regulatory design. The classification of regulatory islands recognises the complexity of overlapping regulatory tools as ‘each state (in the US) has hundreds of regulations and statutory provisions, housed within hundreds of different portions of codes and statutes. Many local governments, too, have detailed oil and gas codes’.⁸³

A testament to Queensland as a regulatory island, within the Australian regulatory context, is the numerous UG regulatory reviews,⁸⁴ legislative amendments and land access regime assessments commencing in the early 2000s.⁸⁵ This may lead to the assessment of Queensland’s UGR regulatory regime as arguably one of the most complex, prescriptive and rule-based natural resource states in Australia, as examined in Chapters 4 and 5 of this thesis. This thesis is confined to an analysis of petroleum authorisation regulatory tools in managing conflicting land interests in Queensland to ascertain whether any regulatory gaps or burdens are evident in Queensland’s current UGR regulatory regime.

2.6 Petroleum Regulation

The state holds sovereignty over its natural resources, as conferred in international law instruments such as the United Nations Human Rights Permanent Sovereignty over Natural Resources Resolution.⁸⁶ Therefore, each state has at its disposal a suite of regulatory tools to implement its petroleum policy objectives through its selected legal framework. Petroleum

⁸² Michael Bunter, *The promotion and Licensing of Petroleum Prospective Acreage* (2002, Kluwer Law International) xxii.

⁸³ Hannah Wiseman, ‘Risk and Response in Fracturing Policy’ (2013) 84 *University of Colorado Law Review* 730; Hannah Wiseman, ‘Regulatory Islands’ (2014) 89 *New York University Law Review* 1697.

⁸⁴ For example, the *Coal Seam Gas Review* by the Queensland Competition Authority in 2014, which will be explored in detail in Chapter four of this thesis.

⁸⁵ Substantive regulatory amendments to Queensland’s petroleum regulatory regime commenced with the enactment of the *Petroleum and Gas (Production and Safety) Act 2004* (Qld), given the limitations of the original petroleum regulatory framework within the *Petroleum Act 1923* (Qld). However, as a result of existing native title regulation under the *Petroleum Act 1923* (Qld) that was not incorporated into the *Petroleum and Gas (Production and Safety) Act 2004* (Qld), the *Petroleum Act 1923* (Qld) is still in force in some native title areas. See *Petroleum and Gas (Production and Safety) Regulation 2004* No. 309. Further, the Land Access Committee Reviews, reports and legislative amendments will be documented and examined in detail in chapter five of this thesis.

⁸⁶ UN, General Assembly resolution 1803 (XVII) of 14 December 1962 *Permanent Sovereignty over Natural Resources*.

titles, approvals and contracts are examples of common regulatory tools of oil and gas activities involving overlapping and interjecting regulations.⁸⁷

As previously examined in Section 2.4, the regulator tool often applicable to natural resource sectors, including that of petroleum, is authorisation. Authorisation generally refers to the process of permitting a certain activity to take place, the absence of which would be a contravention of regulation.⁸⁸ The petroleum industry authorises activities through the licensing and leasing system to allow certain activities to be undertaken and permitted, while some authorisations are exempt from certain activities. Exploration licences are a licence to ‘explore for oil and gas in a particular area issued to a company by the governing jurisdiction’⁸⁹ and a production licence⁹⁰ is a licence to ‘produce oil or gas in a particular area issued to a company by the governing state authority’.⁹¹ Depending on a state’s regulatory framework, a number of state government departments, administrative authorities and judicial bodies may enforce and issue petroleum licences and permits.⁹² Authorisations recognise and legitimise state power over many forms of activities and ownership and control over natural resources. Authorisation is also a primary means of addressing information asymmetries, creating an environment of trust and is an essential element in preventative risk management.

Freiberg identifies multiple objectives of an effective licensing system:

- protecting the community
- addressing information asymmetries
- enhancing probity
- promoting market stability
- minimising or preventing harm
- promoting order and facilitating enforcement
- providing redress
- recovering costs.⁹³

⁸⁷ Wiseman, above n 83.

⁸⁸ Tina Hunter and John Chandler, *Petroleum Law in Australia* (Lexis Nexis, 2014) 77.

⁸⁹ Australian Productivity Commission, above n 78, XVII.

⁹⁰ In Canada, generally speaking, production licenses are often referred to as petroleum leases.

⁹¹ Australian Productivity Commission, above n 78, XVII.

⁹² Chapter four of this thesis provides an analysis of the differing regulatory frameworks of the oversight administrative authorities of Queensland in comparison to the regulatory administrative authority of British Columbia.

⁹³ Freiberg, above n 3, 309.

Petroleum licensing systems, therefore, require regulators to assess the risk posed by a petroleum activity and differing levels of licenses and exclusions applicable based on the level of risk identified. The consequences of discrete risk levels relate to different regulatory oversight measures, differential fees and publication of petroleum licences for public scrutiny. This is compared to negative licensing as a form of regulation, where no licence or permit is required to enter a market, but a serious breach will be reprimanded with exclusive sanctions.⁹⁴ Finally, the common elements and procedures in licensing schemes are as follows:

- a regulatory authority
- application procedures
 - setting out the methods of granting, amendment, transfer, renewal restoration and replacement of licences
- determination of applications
- specification of minimum standards
- awarding of licences
- specification of conditions
 - conditions attached to a licence are variable as to the requirements of the activity or industry
- enforcement and sanctioning provisions
 - Licensing schemes contain specific enforcement and sanctioning mechanisms. Internal disciplinary procedures may be provided for either by the regulatory department or by semi-judicial tribunals and provide for the cancellation, suspension and variation of licences and disqualification from obtaining licence in the future.
- appellate or review systems or bodies.⁹⁵

Petroleum legislation is a particular and specific form of natural resource regulation and consists of primary and subordinate legislation, policy decisions and guidelines. Petroleum legislation must not only regulate petroleum activities, but optimise the extraction of UGR in

⁹⁴ Stephen Rimmer, 'Best Practice Regulations and Licensing as a form of Regulation' (2005) 65(2) *Public Administration* 3, 13.

⁹⁵ Freiberg, above n 3.

a manner that is ‘transparent, predictable and consistent with the overarching petroleum objectives of that State’.⁹⁶

2.7 Petroleum Regulation in Queensland

In the case of Queensland, since the early 2000s, successive state administrations have enacted petroleum policies that support the growth of the UGR industry as a major contributor to the state’s domestic and export economy via amendment to existing petroleum legislation. This leads to two specific considerations in respect to petroleum regulation in Queensland:

- 1) the state has consistently encouraged the optimal extraction of petroleum to increase its resource base and LNG exports
- 2) the state is also responsible for managing the extraction of petroleum and addressing conflicting interests, for example, the interests of agricultural land owners.

Queensland’s current regulatory framework was developed in response to the rapid growth of the LNG industry since the mid-1990s.⁹⁷ Petroleum policy in Queensland facilitates and regulates ‘the carrying out of responsible petroleum activities and the development of a safe, efficient and viable petroleum and fuel gas industry’.⁹⁸

Onshore UGR activities and production in Queensland falls within the scope of its petroleum legislation and is defined as petroleum in s 76K of the *Petroleum Act 1923* (Qld) (PA Act) and s 299 of the PGPSA. The regulation of CSG, as a component of petroleum, falls under the scope of the PGPSA as the regulatory framework for the issuance of onshore petroleum permits for UG in Queensland.

The PGPSA grants petroleum leases, as an example of a regulatory authorisation tool, to allow the petroleum tenure holder to explore for or produce petroleum or to test, develop or use a natural underground reservoir for storage of petroleum or a prescribed storage development in s 800 of the PGPSA. A petroleum tenure holder may construct and operate petroleum pipelines in the area of the petroleum lease according to s 803 and construct petroleum facility according to s 804 of the PGPSA.⁹⁹ Depending on the licensing regulatory

⁹⁶ Tina Hunter, ‘The Development of Shale Gas and Coal Bed Methane in Australia: Best Practice for International Jurisdictions?’ (2016) 38(2) *Houston Journal of International Law* 367, 370.

⁹⁷ Samantha Hepburn, *Mining and Energy Law* (Cambridge, 2015)188.

⁹⁸ *Petroleum and Natural Gas (Production and Safety) Act 2004* (Qld) s 3(1).

⁹⁹ The interaction between the land use of petroleum titleholders in Priority Agricultural Areas will be analysed in detail in Chapter four of this thesis.

framework, a petroleum licence may confer exclusive rights, for as long as the licence is valid, subject to certain conditions, the license holder is authorised to exercise the rights conferred in the license against third parties.¹⁰⁰

In Queensland's case, the legislative framework for UGR activities land use and land access is characterised as a rule-based legislation. As previously discussed in this chapter, although both the PA Act and the PGPSA apply to the regulation of the extraction of UGR in Queensland, regulation primarily occurs under the PGPSA, as the PA Act only operates in some native title areas. The PGPSA operates by authorising the undertaking of petroleum and UGR projects upon private land.¹⁰¹ The PGPSA prohibits activities under the scope of the legislation, such as petroleum activities, and then grants firms a lease and administrative approval to conduct 'authorised resource activities' in a command and control rule-based regulatory system. By comparison, The *Oil and Gas Activities Act*¹⁰² (OGAA) in British Columbia permits application to the Oil and Gas Commission (OGC), in the form and manner required, for a permit for an oil and gas activity.¹⁰³

The rule-based UGR framework in Queensland requires the enactment of new legislation each time a new regulatory issue arises as 'the PGPSA outlines, in minutiae, the "rules" for the extraction of UGR. Such rule-based regulation relies on legislatively entrenched rules to regulate petroleum activities'.¹⁰⁴ As at 2017, the PGPSA consists of over 808 pages and 992 sections and is just one of the seven resource Acts applicable to Queensland's oil and gas regulatory regime.¹⁰⁵ The PA Act, as the first instance of petroleum legislation in Queensland, was seen as 'inadequate' for the regulation of the development of UGR, leading to the introduction of the much longer and more detailed amendments in the PGPSA.¹⁰⁶ As a result of the changes to petroleum licensing and activities, the detailed PGPSA has required over 1,000 amendments with more than 40 consolidated versions released.¹⁰⁷

¹⁰⁰ Hunter and Chandler, above n 88, 21.

¹⁰¹ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) ss 108-112.

¹⁰² *Oil and Gas Activities Act*, SBC 2008, c 36.

¹⁰³ *Oil and Gas Activities Act*, SBC 2008, c 36, s 24. Chapter four of this thesis provides a detailed comparison of the Gasfields Commission of Queensland and Oil and Gas Commission of British Columbia.

¹⁰⁴ Hunter, above n 96, 94.

¹⁰⁵ The others being the *Environment Protection and Biodiversity Conversation Act 1999* (Cth), PA Act, *Environmental Protection Act 1994* (Qld) (EPA), *Water Act 2000* (Cth), *Water Supply (Safety and Reliability Act) 2008* (Qld) and *Gasfields Commission Act 2013* (Qld) (GCA).

¹⁰⁶ CEDA, *Australia's Unconventional Energy Options* (Report, September 2012) <<https://www.ceda.com.au/Research-and-policy/All-CEDA-research/Research-catalogue/Australia-s-Unconventional-Energy-Options>>.

¹⁰⁷ Hunter, above n 96, 372.

There are various other regulatory instruments specific to the UGR industry in Queensland, including:

- a) Petroleum and Gas (Production and Safety) (P&G) Regulation 2004
- b) Code of Practice for Constructing and Abandoning Coal Seam Gas Wells and Associated Bores in Queensland 2013
- c) Code of Practice for Upstream Polyethylene (CSG) Gathering Networks 2011
- d) Competency Standard for the Petroleum and Gas Drilling Industry 2011
- e) Code of Practice for CSG well head emissions, detection and reporting 2011
- f) SafeOp for Petroleum and Gas 2013
- g) Underground Water Impact Report and Final Report Guideline 2013
- h) Baseline Assessment Guideline 2013
- i) Bore Assessment Guideline 2013
- j) Recycled Water Management Plan and Validation Guidelines 2008
- k) Recycled Water Management Plan Exemption Guideline 2011
- l) Coal Seam Gas Recycled Water Management Plan Guideline 2013
- m) Guideline Approval of a Resource for Beneficial Use 2012
- n) Coal Seam Gas Water Management Policy 2012
- o) Financial Assurance Guideline 2013.¹⁰⁸

In Queensland, the responsible overlapping regulatory bodies for the development of petroleum and administration of authorisation-based regulatory tools are the Department of Environment and Heritage Protection; Department of Infrastructure, Local Government and Planning (DILGP); and Department of Natural Resources and Mines. Petroleum licences are distinguished by area of control (premise and the nature of the public resource) and by time (the length of the authorisation).¹⁰⁹

2.8 The Application of Rule-Based and Principles-Based Approaches to Petroleum Regulation

The myriad of overlapping legislation, regulatory instruments and administrative organs has led to ‘unnecessary regulatory burden’ creating ‘highly prescriptive regulations (which) may

¹⁰⁸ Queensland Competition Authority (Qld), *Final Report: Coal Seam Gas Review* (January 2014) <<http://www.qca.org.au/getattachment/aaaeab4b-519f-4a95-8a65-911bc46cc1d3/CSG-investigation.aspx>> 24.

¹⁰⁹ The respective regulatory capacity of these three governmental departments will be examined throughout Chapters four and five of this thesis.

not necessarily provide the confidence to the wider community being sought, particularly where the regulations are complex and not easily understood'.¹¹⁰ The rule-based suite of regulation in Queensland has 'proven ineffective in achieving the desired policy objective'¹¹¹ of adapting to new regulation, creating a 'steady accretion of new regulatory belts and braces'.¹¹² This has resulted in the growing risk of unintended consequences and 'perverse incentives' as the original outcomes are buried 'under sedimentary layers of fresh red tape'.¹¹³

An example of the prescriptive nature of Queensland's rule-based petroleum regulatory framework is evident in its Request for Tender (RFT) authorisation regime. The RFT process uses the work program method of legislation set out in ss 35–63 of the PGPSA. Division 3 of the PGPSA provides a general outline of work programs:

45 Function and purpose

(1) The work program for an authority to prospect gives detailed information about the nature and extent of activities to be carried out under the authority.

(2) The purposes of giving the information are to—

(a) allow resource management decisions to be made; and

(b) ensure appropriate development of the authority.

Subdivision 2—Requirements for proposed initial work programs

46 Operation of sdiv 2

This subdivision provides for requirements (the “**initial work program requirements**”) for a proposed work program for a proposed authority to prospect.

47 Program period

(1) The proposed program must state its period.

¹¹⁰ The relevant legislation for the regulation of petroleum activities in Queensland for the purpose of this thesis includes: the *Petroleum Act 1923* (Qld); *Petroleum and Gas (Production and Safety) Act 2004* (Qld) and the *Regional Planning Interest Act 2014* (Qld) which will be analysed comprehensively within Chapters four and five.

¹¹¹ Queensland Competition Authority (Qld), *Final Report: Coal Seam Gas Review* (January 2014) <<http://www.qca.org.au/getattachment/aaaeab4b-519f-4a95-8a65-911bc46cc1d3/CSG-investigation.aspx>> 20.

¹¹² *Ibid*, 22.

¹¹³ *Ibid*, 26.

(2) The period must be the same as the required period under the relevant call for tenders.

48 General requirements

(1) The proposed program must provide for each of the following—

(a) an overview of the activities proposed to be carried out under the authority or proposed authority during all of its term;

(b) for each year of the program period—

(i) the extent and nature of petroleum exploration and testing for petroleum production proposed to be carried out during the year; and

(ii) generally where the activities are proposed to be carried out; and

(iii) the estimated cost of the activities;

(c) maps that show where the activities are proposed to be carried out;

(d) any other information relevant to the matters mentioned in section 49;

(e) reasons why the program is considered appropriate;

(f) another matter prescribed under a regulation.

(2) A regulation may impose requirements about the form in which the matters mentioned in subsection (1) must be given.

(3) In this section—“**year**”, of the program period, means—

(a) the period starting on the day the program period starts and ending on the first anniversary of that day; and

(b) each subsequent period of 12 months or less during the program period, starting on each anniversary of that day and ending on—

(i) the next anniversary of that day; or

(ii) if the program period ends before the next anniversary—the day the program period ends.

Subdivision 3—Criteria for deciding whether to approve proposed initial work programs

49 Criteria

(1) The matters that must be considered in deciding whether to approve a proposed initial work program include the appropriateness of the tenderer's proposed work program, having regard to each of the following—

- (a) the potential of the proposed area of the authority to prospect for petroleum discovery;
- (b) the extent and nature of the proposed petroleum exploration;

Examples—

- proposed geological, geophysical or geochemical surveying
- the number of petroleum wells the tenderer proposes to drill, and their type

(c) when and where the tenderer proposes to carry out the exploration.

(2) The matters mentioned in subsection (1) are the **“work program criteria”**.

Subdivision 4—Requirements for proposed later work programs

50 Operation of sdiv 4

This subdivision provides for requirements (the **“later work program requirements”**) for a proposed work program for an authority to prospect.

51 General requirements

The proposed program must—

- (a) other than in relation to the program period, comply with the initial work program requirements; and
- (b) state the extent to which the current work program for the authority to prospect has been complied with; and
- (c) if there have been any amendments to the authority or the current work program, state—

- (i) whether the changes have been incorporated in the proposed program; and
- (ii) any effect the changes have on the proposed program; and
- (d) state the effect of any petroleum discovery on the proposed program.

52 Program period

- (1) The proposed program must state its period.
- (2) The period must not be longer than—
 - (a) if the term of the rest, or the renewed term, of the authority is less than 4 years—the rest of its term; or
 - (b) if the term of the rest, or the renewed term, of the authority is 4 years or more, the following—
 - (i) generally—4 years from the start of the period;
 - (ii) if the Minister approves a longer period—the longer period.
- (3) However, the Minister can not approve a period longer than the rest of the term of the authority.

The work programs regulations in the PGPSA are highly prescriptive in outlining detailed initial work programs (sub-div 2), the requirements for proposed later work programs (sub-div 4) and the ministerial powers to approve or refuse the proposed program.¹¹⁴ Further, the footnotes indicate an applicant cross reference with a number of other provisions of the PGPSA detailing further information and document requirements including s 79 (Obligation to lodge proposed later work program), s 100 (Minister may add excluded land) and s 790.

An example of a comparative petroleum regulatory framework that endeavours to use a principles-based regulatory approach is the granting of petroleum permits in British Columbia. Sections 23 and 24 of the OGAA contain the regulations relating to the grant of a petroleum permit:

¹¹⁴ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 57.

Application for permit and authorization

24 (1) Subject to subsection (4), a person may apply to the commission for a permit by submitting, in the form and manner the commission requires,

- (a) a description of the proposed site of the oil and gas activity,
- (b) the information, plans, application form and records required by the commission,
- (c) a written report, satisfactory to the commission, regarding the results of the consultations carried out or notification provided under section 22, if any,
- (d) the prescribed information,
- (e) the prescribed records, and
- (f) the security required under section 30.

(2) An application for a permit under subsection (1) may be consolidated with an application for an authorization.

(3) Despite anything in a specified enactment, the commission may not grant an authorization to a person for a related activity unless the person holds, or has applied for, a permit for the oil and gas activity related to that related activity.

(4) A person may not submit an application for a permit to drill or operate a well, other than a water source well, unless

- (a) the person is the owner of the petroleum and natural gas rights or is the holder of the location in respect of the well,
- (b) the person has an agreement with the owner or the holder of the location referred to in paragraph (a) authorizing the drilling or operation, as applicable,
- (c) the person is the holder of a storage reservoir lease issued under section 130 of the *Petroleum and Natural Gas Act*, or
- (d) the minister has approved the submission under subsection (5).

(5) For the purposes of subsection (4) (d), the minister may

- (a) approve the submission by a person of an application for a permit to drill a well if the well is to be drilled for exploratory or research purposes only, and

(b) in approving a submission under paragraph (a), declare that, if a permit is issued to the person on the basis of the submission, the person is not required to be an owner or holder referred to in subsection (4) or have the agreement referred to in that subsection in order to drill or operate the well for the purposes referred to in paragraph (a).

Permits and authorizations issued by commission

25 (1) Subject to subsection (1.1), on application by a person under section 24 and after considering

(a) written submissions made under section 22 (5), if any, and

(b) the government's environmental objectives, if any have been prescribed for the purposes of this section,

the commission may issue a permit to the person if the person meets the requirements prescribed for the purposes of this section.

(1.1) The Lieutenant Governor in Council, by regulation, may issue a direction to the commission with respect to the exercise of the commission's power under subsection (1), and the commission must comply with the direction despite any other provision of this Act, the regulations or an order made under this Act.

(2) In issuing a permit under subsection (1), the commission

(a) must specify the oil and gas activities the person is permitted to carry out, and

(b) may impose any conditions on the permit that the commission considers necessary.

(3) A permit and any authorizations granted to the applicant for the permit may be issued as a single document.

(4) If the commission issues a permit under subsection (1), the commission must provide notice, in accordance with subsection (5), to the land owner of the land on which an operating area is located.

(5) A notice under subsection (4) must

(a) advise the land owner of the issuance of the permit and of the location of the proposed site of an oil and gas activity on the land owner's land, and

(b) state that the land owner may appeal under section 72 the decision to issue the permit, and include an address to which an appeal may be sent.

(6) A permit holder must not begin an oil and gas activity on a land owner's land before the expiry of 15 days from the day the permit was issued, unless the land owner consents in writing to the activity beginning before the expiry of that period.

The simplified principles-based approach of petroleum legislation in British Columbia creates a streamlined, transparent and predictable petroleum licence process.

The OGAA contains comparatively brief principles-based petroleum legislation consisting of 207 sections. The details for the regulation of oil and gas activities are outlined, including the administrative powers of the OGC, Oil and Gas Appeal Tribunal, permits for oil and gas activities, rights and obligations, compliance and enforcements, inspections and audits and contraventions and administrative penalties. Part 3 of the OGAA regulating oil and gas activities is split into two divisions representing 23 sections. The PNGA similarly consists of 181 sections and regulates entry onto private land in 15 distinct sections. A comprehensive functional comparative analysis of land use and land access tools adopted in Queensland is provided in Chapters 4 and 5 of this thesis.

2.9 Environmental Regulatory Tools

2.9.1 Environmental Impact Assessments

The primary regulatory tool in relation to managing environmental impacts of UGR activities in Queensland is the EIA.¹¹⁵ The EIA is intended to create a proactive methodical process that investigates and predicts the potential direct, indirect and cumulative impacts of proposed project activities on environmental receptors, ideally from project initiation to decommissioning, and offers mitigation strategies.¹¹⁶ EIAs have been broadly employed as proactive decision support tools to diminish or mitigate the potential impact connected with any developmental activities.¹¹⁷ The EIA has three key features to manage environmental impacts of resource activities including:

¹¹⁵ Major mining and petroleum projects can be required to undergo an environmental impact statement (EIS) process preceding, and additional to, the draft environmental authority stage. The *Environmental Protection Act 1994* (Qld) regulates the Environmental Impact Assessment Process.

¹¹⁶ European Commission Directorate-General XI, Environment, Nuclear Safety and Civil Protection. *Study on the Assessment of Indirect and Cumulative Impacts, as well as Impact Interactions* NE80328/D2/2 (1999) <<http://ec.europa.eu/environment/archives/eia/eia-studies-and-reports/pdf/volume1.pdf>>.

¹¹⁷ Judith Pini, *Statutory Obligations for Environmental Impact Assessment in Queensland* (Queensland Parliamentary Library, 1997); Samantha Hepburn, *Mining and Energy Law* (Cambridge University Press, 2015); Michael Walton, 'Climate change, coal mining and environmental impact assessment: are new Galilee Basin coal mines required to assess downstream greenhouse gas impacts?' (2011) 17(80) *Queensland Environmental Practice Reporter* 287.

- 1) helping to identify the positive and negative impacts to the environment in the short- and long-term
- 2) decreasing or offsetting the undesirable impacts of an activity leading to a reduction in environmental degradation
- 3) monitoring to control and manage the level of project implementation and the degree of successfulness of the environmental protection measures.¹¹⁸

An application for a petroleum authority under the PGPSA will be considered in parallel with an application for the required Environmental Authority (EA) under the EPA. Before a petroleum titleholder can be given an EA, the EPA requires that the project's likely environmental impacts be assessed and measures proposed to avoid or minimise any adverse impacts.¹¹⁹ The broad aim of the EPA is to achieve an 'integrated management program that is consistent with ecologically sustainable development'.¹²⁰

An Environmental Impact Statement (EIS) may be carried out voluntarily or where it meets the 'trigger criteria' under the guidelines of the EPA. Petroleum resource activities may only be carried out by a person holding or operating under an EA issued under the EPA and a resource tenement granted under the PGPSA. The trigger criteria for petroleum activities are contained in s 143 of the EPA, stating that an EIS may be required for a site-specific application for a petroleum activity if:

- s 142 does not apply¹²¹
- the application does not relate to a coordinated project under the *State Development and Public Works Organisation Act 1971*(Qld)
- an EIS under the EPA has not been submitted.

EA applications for resource activities may either be standard applications, variation applications or site-specific applications. Only site-specific applications for new resource activities ('greenfield' sites) or the amendment of existing EAs ('brownfield' sites) require a

¹¹⁸ Navid Rikhtegar, Nabiollah Mansouri, Amir Adhadi Oromemieh, Simona Kildiene, 'Environmental impact assessment based on group decision-making methods in mining projects' (2014) *Economic Research* 27(1) 278.

¹¹⁹ *Environmental Protection Act 1994* (Qld) ch 5.

¹²⁰ *Environmental Protection Act 1994* (Qld) s 3.

¹²¹ Section 142 of the *Environmental Protection Act 1994* (Qld) states that an EIS must be required for a site-specific mining application in a wild river high preservation area or in a wild river special flood management area, unless: it is for specified works under the *Wild Rivers Act 2005* (Qld); the application relates to a coordinated project under the *State Development and Public Works Organisation Act 1971* (Qld) (SDPWO Act); or an EIS under the EP Act has already been submitted.

decision to be made whether an EIS is required under the EPA. Large-scale impacts associated with a resource project commonly require site-specific applications that trigger assessment by EIS. The scale (i.e., relative magnitude) of an impact is determined by its intensity, duration, irreversibility and the risk of environmental harm and social and economic impacts.

The EPA will require an EIS if a UGR project holds ‘state significance’ pursuant to the *State Development and Public Works Organisation Act 1971* (Qld) s 55:

If it appears to the Governor in Council in respect of a proposal for the development of the mineral or energy resources of the State or a proposal for the processing or handling of such resources that—

(a) such development, processing or handling will be of major economic significance to the State; or

(b) the provision of infrastructure for or in relation to such development, processing or handling—

(i) would place an excessive financial burden on the resources of the State or on the residents of the State or of any part thereof; or

(ii) would significantly affect the priorities as existing at the material time for the provision of services and facilities by the Crown or any local body; the Governor in Council may, on the recommendation of the Minister, approve that an investigation of the proposal be undertaken by the Coordinator-General with a view to establishing whether the proposed development, processing or handling should be declared to be a prescribed development.

The EIA of petroleum activities is undertaken by the Department of Environment and Resource Management in issuing the necessary EA under the EPA. Where the petroleum activity is classified as a ‘level 1 chapter 5A activity’, being one that bears a medium to high risk of causing serious environmental harm, an EA application must be accompanied by an environmental management plan. After receipt of the application, a decision is made by the determining authority as to whether an EIS is required.¹²²

Petroleum activities are exempt from the need for local government development approvals which would otherwise be required under the *Planning Act 2016* (Qld) and, as with mining activities, do not require state agency vegetation clearing approval. The environmental impact

¹²² *Environmental Protection Act 1994* (Qld) s 310E.

of UGR exploitation is not the focus of this thesis. Rather, a detailed analysis of the authorisations process to undertake UGR activities on agricultural land¹²³ is considered throughout Chapters 4 and 5.

2.9.2 Adaptive Management

One of the most critical elements of natural resource regulation is recurrent decisions—decisions that need to be made on a regular basis in response to changing conditions and priorities with the aim of reducing ecological uncertainty.¹²⁴ Adaptive management holds its origins as technical scientific environmental management methodology for the management of complex ecosystems by ‘monitoring the results of a suite of management initiatives’.¹²⁵ Adaptive management was first described by Beverton and Holt in the environmental sector as an alternative decision-making process for fisheries.¹²⁶ Holling¹²⁷ and Walters and Hilborn¹²⁸ further refined and theorised the framework for ‘adaptive resource management’. Adaptive management continues to be applied frequently to the monitoring and mitigation of risks in the fisheries, forestry and engaged species sectors.¹²⁹

Adaptive management is traditionally an environmental management theoretical approach which, ‘seeks insights into the behavior of ecosystems...and incorporates and integrates concepts such as social learning, operations research, economic values, and political differences with ecosystem monitoring, models, and science’.¹³⁰ The concept is designed to support action in environmental management issues facing limitations of scientific knowledge and complexities of large ecosystems.¹³¹ Therefore, adaptive management is typically utilised as an overarching management goal without the context of creating environmental

¹²³ As regulated by the *Regional Planning Interests Act 2014* (Qld).

¹²⁴ Byron Williams and Eleanor Brown, ‘Adaptive Management: From More Talk to Real Action’ (2014) 53(2) *Environmental Management* 465; Byron Williams and Fred Johnson, ‘Confronting dynamics and uncertainty in optimal decision making for conservation’ (2013) 8(2) *Environmental Research Letters* 1.

¹²⁵ Robin Gregory, Dan Ohlson and Joe Arvai, ‘Deconstructing Adaptive Management: Criteria for Applications to Environmental Management’ (2006) 16(6) *Ecological Applications* 2411, 2412.

¹²⁶ Raymond Beverton and Sidney Holt, *On the Dynamics of Exploited Fish Populations* (Chapman and Hall, 1957).

¹²⁷ Crawford Stanley Holling, *Adaptive Environmental Assessment and Management* (Wiley, 1978).

¹²⁸ Carl Walters and Ray Hilborn, ‘Ecological Optimization and Adaptive Management’ 1987 9 *Annual Review of Ecology and Systematics* 157.

¹²⁹ Carl Walters, *Adaptive Management of Renewable Resources* (The Blackburn Press, 2002).

¹³⁰ National Research Council, *Adaptive Management for Water Resources Project Planning* (The National Academies Press, 2004) 19.

¹³¹ Holling, above n 127.

management policies to assist in learnings of ‘complex ecological systems by monitoring the results of a suite of management initiatives’.¹³²

Adaptive management theory was expanded significantly by Lee, who positioned adaptive management beyond the environmental sector in his application of the theory to the political and social sciences.¹³³ However, according to Williams, ‘many in natural resources conservation now claim, sometimes inappropriately, that adaptive management is the approach they commonly use in meeting their resource management responsibilities’.¹³⁴ William’s statement alludes to the fact that adaptive management is not correctly categorised as an approach to guide regulation—rather, it is an environmental management protocol.¹³⁵

Two alternating approaches in the application of adaptive management framework by states have been classified as either passive or active adaptive management.¹³⁶ Passive adaptive management outlines a single preferred course of action based on existing information and understanding. Outcomes of management actions are then monitored and subsequent decisions are adjusted based on the outcomes.¹³⁷ This approach contributes to environmental management, but it is limited in its ability to enhance scientific and management capabilities for conditions that exceed the course of action selected.¹³⁸ By contrast, an active adaptive management approach reviews information before management actions are taken. A range of competing alternative system models of ecosystem and related responses (e.g., demographic changes and recreational uses), rather than a single model, are then developed. Utilising an active adaptive management approach, options are then chosen based upon evaluations of these alternative models.

Adaptive management has been identified as a concept of environmental management ‘widely promoted and widely misunderstood’.¹³⁹ This is due to adaptive management being adopted

¹³² Gregory, Ohlson and Arvai, above n 125, 2412. Walters, above n 129.

¹³³ Kai N. Lee, *Compass and gyroscope: integrating science and politics for the environment* (Island Press, 1993).

¹³⁴ Byron Williams, ‘Adaptive Management Of Natural Resources - Framework And Issues’ (2011) 92 *Journal of Environmental Management* 1346, 1356.

¹³⁵ Byron Williams, *ibid.*

¹³⁶ Carl J. Walters and Crawford Stanley Holling, ‘Large-scale management experiments and learning by doing’ (1990) 71(6) *Ecology* 2060; Carl Walters, *Adaptive Management of Renewable Resources* (The Blackburn Press, 2002); United State Department of Agriculture, *Adaptive Management of Natural Resources: Theory, Concepts, and Management Institutions* (2005) <<https://www.wrrb.ca/sites/default/files/18.%20Stankey%20Adaptive%20Management%20PNW.pdf>>.

¹³⁷ Walters and Holling, above n 136.

¹³⁸ *Ibid.*

¹³⁹ Nicola Swayne, ‘Regulating coal seam gas in Queensland: lessons in an adaptive environmental management approach?’ (2012) 29(2) *Environmental and Planning Law Journal* 163, 165.

by states without clear identification of appropriate measures and targets for regulation creating ineffective implementation and ambiguity in the application of the concept. To be successful, adaptive management must have clear measures and objectives, rather than serving as a measure to create excessive regulation creating burdens and gaps. As stated by Jones, adaptive management:

[it i]s an approach that ensures management not only plans and carries out actions to achieve objectives, but also measures the results so that everyone can see what's working and what's not, and consequently make informed decisions and adjustments to enhance the achievement of objectives and the delivery of desired outcomes.¹⁴⁰

Therefore, when applying an adaptive management approach to regulation, it is important to ensure sufficient flexibility and responsiveness within the broader regulatory framework. As examined in Sections 2.2 and 2.3, regulation grounded in objective principles must adopt a sufficiently flexible approach in creating a regulatory framework that can remain objectively applicable and relevant in a variety of changing conditions. Similarly, active adaptive management approach must 'embrace complexity'¹⁴¹ by presenting broad objective principles that allow for responsiveness to a range of regulatory conditions without the state needing to amend its regulatory approach. The absence of an appropriately flexible adaptive management regulatory scheme can create 'costly implementation failures',¹⁴² for example, through legislative overhauls and the administration of multiple regulatory agencies.

Therefore, although a key motivation of adaptive management is to improve regulation by reducing structural uncertainty, its success can be impeded by a failure to adapt to social and institutional changes that inevitably occur over time. A well-designed active adaptive management regulatory approach provides the opportunity for learning at both levels, recognising that learning often occurs on different time scales. Thus, technical learning occurs in a context of relatively short-term objectives, alternatives and predictive models. However, learning about the decision process itself occurs through periodic, but less frequent assessment of these factors as they evolve in response to management actions and environmental conditions.

¹⁴⁰ Glenys Jones, 'The Adaptive Management System for The Tasmanian Wilderness World Heritage Area – Linking Management Planning With Effectiveness Evaluation' in Catherine Allan and George Stankey (eds), *Adaptive Environmental Management* (Springer, Netherlands, 2009) 227, 380.

¹⁴¹ Robert Argent, 'Components of Adaptive Management' in Catherine Allan and George Stankey (eds), *Adaptive Environmental Management* (Springer, Netherlands, 2009) 26.

¹⁴² Gregory, Ohlson and Arvai, above n 125, 2433.

Consequently, effective active adaptive management regulation has been typically confined to small-scale projects limited to environmental management issues, for example, water management of the Murray-Darling Basin. Regulation with an inflexible, prescriptive and rule-based approach is unlikely to provide effective petroleum regulation as adaptive environmental management is not a ‘one size fits all solution’.¹⁴³ Swayne also identifies that adaptive management is not automatically classified ‘an active decision-making framework nor does it make the decision making process easier’¹⁴⁴ as an active adaptive management approach ‘evaluates alternative options on the assumption that decisions will be made and enacted, rather than avoided’.¹⁴⁵ Swayne identifies the hallmarks of evaluation for successful and active adaptive managing including clearly defining:

- What are the management objectives and the key desired outcomes for the regulatory system?
- What are the appropriate strategies and actions to be taken to achieve the objectives and key desired outcomes?
- What range of potential performance indicators can be used to monitor or measure the effectiveness of the management approach?
- How will what is learnt be used in deciding what to do? And critically, who will be responsible for adjustments in the management approach in response to the results of the evaluation?¹⁴⁶

2.9.3 Queensland’s Adaptive Management Regulatory Approach

As a regulatory technique, adaptive management was adopted by Queensland regulatory bodies as an ‘off the shelf’ solution to the technical nature of natural resource legislation. This regulatory approach was likely selected due to adaptive management theory holding its origins in scientifically challenging policy and regulatory issues operating in a regulatory environment of uncertainty surrounding the cumulative impacts and multitude of stakeholder interests the state is required to manage. Issues of scientific uncertainty have continually faced UGR, as evident in the establishment of the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development in 2012, established by the *Environment*

¹⁴³ Catherine Allan and George Stankey (eds), *Adaptive Environmental Management* (Springer, Netherlands, 2009) 20.

¹⁴⁴ Swayne, above n 139, 166.

¹⁴⁵ Argent, above n 141 26.

¹⁴⁶ Swayne, above n 139, 166.

Protection and Biodiversity Conservation Act 1999 (Cth) (EPBCA), providing scientific advice the State on the impact that UGR activities may have in Australia's water resources.

Queensland states its adaptive management approach recognises the uncertain impacts of UGR activities and puts in place a system 'to monitor the industry and instigate change where required'.¹⁴⁷ The object of this approach is to 'ensure the government is able to respond to what happens on the ground and protect the environment'.¹⁴⁸ Queensland's current UGR regulation operates a myriad of amendments superimposed onto the existing legal duties. Queensland's adoption of adaptive management as the overarching approach to its UGR regulation may be passive and inflexible, as evident in its enactment of numerous retrospective and overlapping regulations after specific UGR inquiries, such as the MERCPA in response to the Land Access Committee Report of 2012.¹⁴⁹

To illustrate this point of retroactive regulatory enactment, a 2006 internal report by the Principal Policy Officer of the Queensland Department of Mines and Energy claimed, 'the evidence has grown that this industry (UGR) is being developed faster than the capabilities of the authorities to moderate the potential downsides'.¹⁵⁰ As examined in Sections 2.3 and 2.5 the use of rule-based regulation creates high administrative and compliance costs due to uncertainty and conflict in a regulatory framework. Passive adaptive management is arguably an output of an ineffective rule-based approach which results in inappropriate tool selection, regulatory bad design and poor implementation due to ambiguity in regulation.¹⁵¹ Consequently, Queensland's approach does not necessarily exhibit all the necessary hallmarks of an active adaptive management approach due to its rule-based nature, evident in multitude of amendments to the PGPSA since its enactment in 2004.¹⁵²

Application of an adaptive management amendment is also found in the 2013 amendments to the EPBCA s 25 to include a 'water trigger' of UGR and large coal mine developments that have or are likely to have a 'significant impact' on a water resource. However, the EPBCA

¹⁴⁷ Queensland Government, Department of Heritage Protection, *Adaptive Management* (2017) <<https://www.ehp.qld.gov.au/management/non-mining/adaptive-management.html>>.

¹⁴⁸ Ibid.

¹⁴⁹ The CAP will be examined in detail in chapter five of this thesis. Tina Hunter, above n 96, 370.

¹⁵⁰ Geoff Edwards, *Management of Water Co-produced with Coal Seam Gas Is there a Drop to Drink*, Issues Paper no 4 (2006) <<http://www.pc.gov.au/inquiries/completed/resource-exploration/submissions/submissions-test/submission-counter/sub018-attachment4-resource-exploration.pdf>>.

¹⁵¹ As explored earlier in chapter two part 2.2. See Arie Freiberg, above n 3.

¹⁵² Since 2004, the *Petroleum and Gas (Production and Safety) Act 2004* (Qld) (PGPSA) has been subject to multiple and major amendments. An examination of the endnotes of the PGPSA identifies over 1000 amendments to the PGPSA, with more than 40 consolidated versions of the Act released.

amendments were without the benefit of a Regulation Impact Statement—prepared to assess the impact and benefits of legislative amendments. Due to a lack of scrutiny of the ‘water trigger’ amendments and the large application in scope of the new provisions encompassing 48 existing projects, an independent review was undertaken of the operation, appropriateness, effectiveness and efficiency of the new amendments. The review identified that the ‘water trigger’ conditions applied to the impacts to water development are often uncertain and carry significant risks in terms of consequences.¹⁵³

Although an active adaptive management approach, when properly implemented into regulation, can create an objective principles-based framework and provide assistance in complex and uncertain sectors, without clear objectives, performance indicators or criteria for evaluation adaptive management is likely to be classified as passive and ineffective.¹⁵⁴

The Queensland Government considers that the current approach of adaptive management will allow UGR projects to proceed while protecting the environment and stakeholders.¹⁵⁵ However, it is clear that the Queensland regulatory approach is designed to facilitate these resource extraction projects while assuming the regulatory approach will be changed, to an appropriate level and within a sufficient timeframe, to avoid any adverse impacts or outcomes.

2.10 The Public and Private Ownership Divide and its Application to UGR

Natural resources are subject to a state’s property regime under either public or private ownership. The adoption of one of these ownership regimes for the management and exploitation of natural resources is largely a consequence of history and legislative context. The public ownership of subsurface natural resources is formally justified on the grounds that it provides governments with economic benefits that may be distributed for community benefit. On this basis, a public resource framework assumes that while land may be subject to public or private ownership, the natural resources residing within the land are owned by the state and this entitlement is formalised through the implementation of explicit statutory vesting provisions.

¹⁵³ Stephen Hunter, *Independent Review of the Water Trigger Legislation* (2017) <<http://www.environment.gov.au/system/files/resources/905b3199-4586-4f65-9c03-8182492f0641/files/water-trigger-review-final.pdf>> 6.

¹⁵⁴ Nicola Swayne, above n 139, 163.

¹⁵⁵ Queensland Government, Department of Environment and Heritage Protection, above n 147.

Private landowners in a public resource framework retain common law entitlements to the surface estate. Public resources are conceptually disaggregated from the bundle of rights that make up the land estate despite corporeal integration. Onshore petroleum resources are owned by the Crown in Commonwealth legal jurisdictions. However, the exploitation of these resources is rarely undertaken by the state alone due to the high investment of public capital and risk. Therefore, the development of petroleum establishes a relationship between state and private corporations granted petroleum exploration and production titles or leases.

However, in assigning property rights to the private sector for the exploration, development and production activities in return for royalties as capital to be expended for the public good, the Crown still owes a ‘duty of development’ in the public interest.¹⁵⁶ The core objective of a public resource system is for the state to encourage cooperation and, in so doing, minimise conflicting interests and satisfy public interest duties. Under these circumstances, the challenge for the government regulator involves allocating and managing resources in the public interest for financial and economic returns and protecting natural resources on an ongoing basis.

Public resource ownership in Australia and Canada is grounded on the principle that resource rents and royalties collected by the state in the private development of petroleum will be managed for the benefit of the public as a whole. As argued by Hepburn, the assumed role of the state as ‘public guardian’ of resources must necessarily include a thorough evaluation of all competing interests.¹⁵⁷ A critical element in this process is the inclusion of any affected private landholders. Public interest responsibilities must be satisfied where it is clear that resource development decisions are not subject to equitable and transparent land access arrangements with private landholders.¹⁵⁸ Due to a presumption ‘grounded in coded behaviour’,¹⁵⁹ it is presumed the public regulatory framework and state ownership of natural resources is preferable to private ownership. This raises the question of whether fairness in the costs and benefits of management to all members of society is maximised and achieved by controlled ownership of public resources in the state.

¹⁵⁶ Samantha Hepburn, ‘Public Resource Ownership and Community Engagement in a Modern Energy Landscape’ (2017) 34 *Pace Environmental Law Review* 379, 379.

¹⁵⁷ Hepburn, *ibid*, 379.

¹⁵⁸ Hepburn, *ibid*, 379.

¹⁵⁹ Hepburn, *ibid*, 379, 382.

The complexity of onshore UGR expansion has given rise to academic discourse to expand the public interest responsibilities owed by the state as a public resource owner.¹⁶⁰ This is due to the lack of regulatory oversight and thorough evaluation of all competing interests in a vigorous investigation by the state of the benefit and utility of each resource development proposal. Therefore, public interest in the development of resource development naturally leads to precautionary principles-based regulation to manage conflicting stakeholder interests. The current regulation of UG activities between the state, as the owner of all onshore petroleum resources vested by relevant legislation in the state and the Commonwealth as policymaker, is a similar feature of the petroleum regulatory frameworks of both Queensland and British Columbia.¹⁶¹

As the state must not only regulate petroleum exploration and activities, but also respond to the unique conflicting interests between private firms and private landholders, principles-based regulation takes into consideration variable petroleum policies and the need for certainty and transparency of conditions for private landholders engaging with petroleum firms. Therefore, the legal and administrative framework of UGR must be constructed as a function of state petroleum frameworks to accomplish the effective management of its petroleum resources.

Sovereignty is tightly linked to the emergence of the modern state and the peculiarities of the powers it exercises.¹⁶² Due to its doctrinal underpinnings, sovereignty operates as a legitimising concept depending on who is deemed to be the holder of sovereignty. The legal dimension of sovereignty refers to the limits of power exercised by the holders of sovereignty.¹⁶³ These three elements of sovereignty may be viewed in conjunction with the principle of exclusivity, in that the sovereign state is a territorial institution due to its exclusive authority within the geographic perimeter of its territory, both horizontally and, in the case of UG, vertically.¹⁶⁴ Sovereignty remains a complex topic, particularly in nations with indigenous native title territories that are not subject to Crown law.

¹⁶⁰ Frederick Cubbage, Jay O’Laughlin, M. Nils Peterson, *Natural Resource Policy* (Waveland Press, 2016); Lawrence J. MacDonnell, Sarah F. Bates, *The Evolution of Natural Resources Law and Policy* (American Bar Association, 2010); James R. Rasband, James Salzman, Mark Squillace, Sam Kalen, *Natural Resources Law and Policy* (Foundation Press, 2016).

¹⁶¹ The comparative law and legal structures of Australia and Canada is analysed in Chapter three of this thesis.

¹⁶² Bertrand de Jouvenel, *Sovereignty: An Inquiry Into the Political Good* (Cambridge University Press, 1957).

¹⁶³ Barbara Delcourt, ‘Sovereignty’ in Mark Bevir (ed) *Encyclopaedia of Governments* (SAGE Knowledge, 2014).

¹⁶⁴ Karen Litfin, ‘Sovereignty in world Ecopolitics’ (1997) 41 *Mershon International Studies Review* 167.

Following from early critiques of the notion of sovereignty, a challenge to the concept of ‘absolute’ sovereignty led to the conception of political power, asserting that a political society is a voluntary association of people who are the genuine holders of sovereignty.¹⁶⁵ The concept of sovereignty gives the state the right to declare ownership, as compared to the Commonwealth sovereign right to offshore natural resources beyond the territorial sea of 12 nautical miles and to the outer limits of the continental shelf.¹⁶⁶ This redefinition of the shift of political power challenged the notion of the ‘top down’ institutional sovereignty approach to governance in favour of the ‘bottom up’ approach granting power to civic society with collective rights.¹⁶⁷ The national dimension of external sovereignty can also be viewed through the same lens.

According to the principle of self-determination, external political authorities are not entitled to interfere in the political, social and economic choices made by the citizens of a country—termed negative sovereignty.¹⁶⁸ Foreign policies and diplomatic activities are supposed to serve the interests of the nation as positive sovereignty and national interests are also deemed to determine the conditions under which a state will participate in international organisations or activities as operational sovereignty.¹⁶⁹

Federal and state/provincial governments hold two roles in the development of their petroleum and natural gas resources. Firstly, as owners of resources, the federal government has a responsibility to develop the mineral and petroleum resources for the benefit of the state and its citizens. As the regulator, the various state governments have a responsibility to develop these resources legally and equitably. The development of a Commonwealth state’s UGRs are typically undertaken by private companies. Governments grant various types of mining titles over natural resources to private companies so that resource exploration and production can be undertaken. Additionally, the government regulates the mining activities to ensure the safety of the activities and compliance with relevant mining laws in each state. In return for providing mining companies with access to these resources, the relevant government collect taxes and/or royalties.

¹⁶⁵ Dusan Pavlovic, *Rousseau’s Theory of Sovereignty* (PhD Thesis, Department of Political Science, Central European University, 1997).

¹⁶⁶ *Offshore Petroleum Act 2006* (Cth) s 3.

¹⁶⁷ Jurgen Habermas, *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society* (MIT Press, 1962).

¹⁶⁸ Duncan French, *Statehood and Self-Determination: Reconciling Tradition and Modernity in International Law* (Cambridge University Press, 2013).

¹⁶⁹ Cynthia Weber, *Simulating Sovereignty: Intervention, the State and the Symbolic Exchange* (Cambridge University Press, 1997).

2.11 Conclusion

The theoretical and regulatory conceptual underpinnings of this thesis have been detailed in this chapter. The leading theories of principles-based and rule-based regulation applied to petroleum regulation have been examined in conjunction with an analysis of the evolving concept of adaptive environmental management now applied as a regulatory approach to exploiting UGRs. This chapter also explored the importance of the state ensuring that UGR exploitation takes place in a balanced regulatory regime that manages public and private interests.

Active adaptive management can be an appropriate and successful tool to aid in regulating UGR land use and land access. However, in its current manifestation in Queensland it does not contain clear objectives, performance indicators or criteria for evaluation or response. This passive adaptive management approach applied in Queensland codifies new conditions into amendments and additions to rules that are already complex and confusing to administer. The current UGR regulatory framework of Queensland is a ‘complex legal web’¹⁷⁰ in regards to allowing UGR projects to proceed, reporting and adjustment of industry practices to minimise impacts on the natural environment and land used for other purposes.

Chapter 3 will analyse the conflict in the use of land for UGR production in agricultural areas in Queensland, the divide between agricultural and petroleum policy and its contrast of private ownership of agricultural lands and Crown ownership of UGR.

¹⁷⁰ Nicola Swayne, above n 139, 184.

CHAPTER 3: UNCONVENTIONAL GAS ACTIVITIES IN AGRICULTURAL AREAS

3.1 Introduction

Chapter 2 reviewed the theoretical principles underpinning regulation, including principles-based and rule-based regulation, consequential regulatory tools selected by the state to control the activities of individuals and corporations, and regulatory failures resulting in inappropriate tool selection and regulatory design. This examination defined and developed key concepts which emerge and are applied throughout this thesis—namely, regulatory gaps and burdens associated with petroleum regulation and the role of the state in managing different interests alongside the desire to develop the economic potential of UGR for the benefit of citizens.

The purpose of this chapter is to examine the jurisdictions and respective legal frameworks of British Columbia and Queensland to establish how both jurisdictions face similar policy objectives in embracing UGR while aiming to balance land conflicts. In conducting an analysis of a state's policy, it is important to examine the current legal framework of a jurisdiction to provide a comprehensive understanding of its regulatory approach to managing conflicting interests of stakeholders in developing petroleum and UGR. Such an examination provides a fundamental basis from which a detailed critical analysis of the regulation of UGR exploitation on agricultural land can occur. A similar examination of a comparative jurisdiction is essential to determine that a comparator legal system operates in a sufficiently similar policy and socio-political environment to enable an effective functional analysis to occur. Therefore, British Columbia's UGR policy and legal framework will be examined to compare and contrast the structure and function of the central elements in its regulatory and legislative approach.

This chapter commences with a general examination of both domestic legal systems, before moving to specific regulations governing the UGR sector. In so doing, the chapter provides a comparative analysis of similarities and differences prior to a more detailed analysis of the UGR sector in both jurisdictions. The chapter identifies the commonalities between the state as regulator, petroleum property rights, petroleum licensing and contractual-based systems and observes critical differences. This analysis then demonstrates how both countries have

sufficient political, economic and legal ‘likeness’¹ to enable an effective comparison of functions undertaken in their regulatory systems. In the latter half of the chapter, the administration, regulation and political management of the agricultural and petroleum sector is analysed in detail, providing a comparative analysis of both systems. Finally, the model developed in British Columbia to preserve and protect agricultural land is reviewed to determine whether there are opportunities to adopt similar administrative and structural arrangements in the context of Queensland.

3.2 Commonality of Internal Systems

A comparative assessment of the role of the state, constitutional foundations, property law and regulatory tools of licensing and contractual-based authorisation provides a functional foundation to identify similarities and differences between Australia and Canada. This provides the necessary background for the two UGR regulatory regimes to be analysed and compared and for inferences to be drawn.²

3.2.1 Law and Legal Structure

3.2.1.1 Australia

Historically a colony of the United Kingdom (UK), the Australian legal system is derived from English common law, drawing heavily on English constitutional law, statute and case-based precedent. Until 1985, the Australian states continued to be influenced by the UK, which retained legal sovereignty over the Australian colonies and extended legislation enacted over the colonies so that the colonial parliaments could not legislate inconsistently.³ Prior to 1986,⁴ the legislation of the Australian colonies was subject to the scrutiny of the UK Government and the Judicial Committee of the Privy Council functioned as the final court of appeal from the Supreme Court of each Australian colony.⁵

The Australian judicial and constitutional system currently comprises nine jurisdictions, consisting of six states—New South Wales, Queensland, South Australia, Tasmania, Victoria

¹ Pier Giuseppe Monateri, *Methods of Comparative Law* (Edward Elgar, 2012).

² A detailed comparison of land use and land access functions and regulatory tools utilised by both Queensland and British Columbia is found within Chapters four and five.

³ *Colonial Laws Validity Act 1865* (Imp), 28 & 29 Vict, c 63, s 2.

⁴ See *Australia Act 1986* (Cth) and *Australia Act 1986* (UK). The passage of both Acts through the respective parliaments terminated the power of Parliament of United Kingdom to legislate for Australia.

⁵ *Judicial Committee Act 1833* (IMP).

and Western Australia—two territories—the Northern Territory and the Australian Capital Territory—and the overarching federal legal system. Each of the states holds its own Constitution Act concerned with the structure and process of the institutions of government—parliaments, executive governments and State Supreme Courts.⁶ The Constitution Acts are generally subject to amendment or repeal by the state parliaments in the same way as other legislation and do not govern structural or functional issues confined to federal jurisdiction.

At the federal level, the doctrine of separation of powers has an important impact for law-making in Australia. The doctrine is assumed in Chapters I, II and III of the *Commonwealth of Australia Constitution Act 1900* (Cth) where the legislative, executive and judicial powers of the Commonwealth are respectively vested in the Parliament, the Executive Government and the Judicature.⁷ Since 1985, the judicial power of the Commonwealth must be vested in a federal court, namely the High Court of Australia or other Chapter III courts, such as the Family Court of Australia and the Federal Court of Australia, and state courts exercising federal jurisdiction.⁸ However, federal tribunals may not exercise judicial power of the Commonwealth.⁹ Conversely, in the states and territories, a strict doctrine of separation of powers does not emerge either from constitutions or from the common law.¹⁰

Under the doctrine of ministerial responsibility, ministers are responsible not only for the implementation of Cabinet decisions, but for the proper functioning of departments and agencies for which they have responsibility, including receiving complaints about administrative decisions.¹¹ However, the introduction of statutory reform and the development of the common law are due to the developing perception of the decline of ministerial responsibility in Australia.¹²

The legislative power¹³ in a state is formally vested in the legislature or Parliament of that state. While the grant of power is plenary,¹⁴ as it is subject to express and implied limitations found in the Commonwealth Constitution,¹⁵ Queensland holds a Constitutional unicameral

⁶ *The Constitution of Queensland 2001* (Qld) is the governing constitutional act of Queensland.

⁷ *Commonwealth of Australia Constitution Act 1900* (Cth) ss 1, 61, 71.

⁸ *Attorney-General (Cth) v R (The Boilermakers' Case)* (Boilermakers' case) (1957) 95 CLR 529.

⁹ *R v Trade Practices Tribunal; Ex parte Tasmanian Breweries Pty Ltd* (1970) 123 CLR 361.

¹⁰ *Building Construction Employees and Builders' Labourers Federation of New South Wales v Minister for Industrial Relations* (1986) 7 NSWLR 372.

¹¹ *Commonwealth of Australia Constitution Act 1900* (Cth) s 24.

¹² *R v Toohey; Ex parte Northern Land Council* (1981) 151 CLR 170.

¹³ *Constitution of Queensland 2001* (Qld) s 2 ('peace, welfare and good government').

¹⁴ *Durham Holdings Pty Ltd v New South Wales* (2001) 205 CLR 399; 75 ALJR 501, 503-4.

¹⁵ *Commonwealth of Australia Constitution Act 1900* (Cth) Ch V.

legislature system—the legislature extends to only one House of Parliament, being the Legislative Assembly.¹⁶ The unicameral model makes policy development in Queensland beholden to the Premier as legislative power is vested in the Queen and the Legislative Assembly only.¹⁷ Therefore, since 1922, Queensland has only had one legislative chamber. Together with the Commonwealth Parliament, all other state and territory legislatures are bicameral. In the case of Queensland and its unicameral constitutional system, when introducing a statute into the legislature in the form of a bill in Queensland, the passage of all public bills through the parliamentary processes need only be passed by one legislative chamber for enactment.

The unicameral model was criticised in the Fitzgerald Commission of Inquiry Report: ‘Any (Queensland) Government may use its dominance in the Parliament and its control of public resources to stifle and neuter effective criticism by the Opposition’.¹⁸ The party holding the majority in the Legislative Assembly may create a monopoly on policy development. This can give rise to imbalances of power in policy priorities depending on the will of the governmental party in power, such as during the Newman Government in 2012–2015 in relation to rapid CSG development in Queensland.

3.2.1.2 Canada

Canada consists of ten provinces—Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Nova Scotia, Ontario, Prince Edward Island, Quebec and Saskatchewan—and three territories—the Northwest Territories, Nunavut and Yukon. With the exception of Quebec as a former French colony,¹⁹ the provinces were all British colonies.²⁰ Similar to Australia, Canada was granted independence and autonomy by the UK in the *Statute of Westminster 1931* (UK).²¹ The *Colonial Laws Validity Act 1865* also upheld

¹⁶ The Queensland, Australian Capital Territory (ACT) and Northern Territory (NT) legislatures are unicameral, consisting of only one house, the Legislative Assembly. Scott Prasser and Nicholas Aroney, ‘Real Constitutional Reform After Fitzgerald Still Waiting for Godot’ (2009) 18(3) *Griffith Law Review* 596.

¹⁷ Although legislation is reviewed by Committees. *Constitution Act 1867* (Qld) s 2A.

¹⁸ G.E Fitzgerald, *Commission of Inquiry into Possible Illegal Activities and Associate Police Misconduct, Report of a Commission of Inquiry Pursuant to Orders in Council* (3 July 1989) 123.

¹⁹ Quebec holds a juridical legal system under which civil matters are regulated by French civil law. However, public law, criminal law and other federal law operates according to Canadian common law.

²⁰ Although Canada was under French dominion from 1534-1763 commencing with the exploration of Newfoundland and came under British dominion from 1763-1931. See Bob Bothwell, *Penguin History of Canada* (Penguin Canada, 2007) for an in depth analysis of Canadian history.

²¹ The Statute of Westminster clarified the powers of Canada’s Parliament and of other Commonwealth Dominions, giving the former colonies full legal freedom, except in areas in which a dominion wishes to remain subordinate to Britain. Kenneth Clinton Wheare, *The Statute of Westminster, 1931* (Clarendon Press, 1933).

the validity of colonial laws that were in contradiction with the laws of the Imperial Parliament.

Canada has implemented a *Bill of Rights*²² and entrenched rights within the *Chapter of Rights and Freedoms*,²³ which is one of the guarantees afforded by the Canadian Constitution.²⁴ This is in contrast to Australia, which does not hold an express statutory form outlining rights of its citizens. The *Constitution Act, 1867*²⁵ provides that the Executive Government and authority over Canada is vested in the Queen and that all the powers vested in the Governor General will be exercisable with the advice and consent of the Privy Council.²⁶ Effectively, executive decisions are made by the Cabinet which represents the Governor General.²⁷ Despite the principle of the Crown's indivisibility, the decisions of the federal executive and the provincial executives are distinct and unrelated.²⁸ As outlined in the *Constitution Act, 1867*,²⁹ Parliament consists of the Crown, the House of Commons and the Senate. Parliament enjoys the power to legislate and no legislation may be made except by Parliament or a provincial legislature. As with Crown prerogatives, parliamentary privilege shields decisions made by the Parliament from court supervision, as it enjoys constitutional protection.

The federal courts are the Supreme Court of Canada, the Federal Court, the Federal Court of Appeal and the Tax Court of Canada. Section 96 of the *Constitution Act, 1867* guarantees the existence of 'superior courts' as one of the ultimate safeguards of the rule of law. Section 96 was designed to ensure existence of the rule of law and the independence of the judiciary.³⁰ It gives the Governor General the power to appoint all superior court judges and 'establishes the

²² *Canadian Bill of Rights*, SC 1960, c 44. The *Constitution Act, 1982* being sch B to the *Canada Act 1982* (UK), 1982, c 11 contains the *Canadian Charter of Rights and Freedoms* and other provisions, including the procedure for amending the Constitution of Canada.

²³ *Canadian Charter of Rights and Freedoms, Constitution Act 1867* (IMP), 30 & 31 Vict c 3, Pt I.

²⁴ See also *Ernst v. Alberta Energy Regulator* 2017 [2017] 1. R.C.S. in which a landholder in Alberta claimed the Alberta Energy Regulatory had breached their right to freedom of expression under s. 2 (b) of the *Canadian Charter of Rights and Freedoms* by punishing her for publicly criticizing the Board and by preventing her, for a period of 16 months, from speaking to key offices within it. The majority held and dismissed the appeal on the basis that *Charter* damages could never be an appropriate and just remedy for *Charter* breaches by the Board, s. 43 does not limit the availability of such a remedy under the *Charter* and the provision cannot be unconstitutional. See also *Ernst v. Alberta (ERCB)* 2014 A.B.C.A 285 and *Ernst v EnCana Corporation* 2013 A.B.Q.B 537.

²⁵ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3 (formerly the *British North America Act 1867* (UK), 30 & 31 Vict, c 3), together with amendments made to it since its enactment, and the text of the *Canada Act 1982* (UK) c 11 sch B ('*Constitution Act, 1982*'), as amended since its enactment are now presented in consolidated form.

²⁶ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3, s 3. Peter Oliver, Patrick Macklem, Nathalie Des Rosiers, *The Oxford Handbook of the Canadian Constitution* (Oxford University Press, 2017).

²⁷ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3, ss 9 and 10.

²⁸ Jeremy Webber, *The Constitution of Canada: A Contextual Analysis* (Bloomsbury Publishing, 2015).

²⁹ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3, s 17.

³⁰ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3.

primary and specially entrenched place of the superior courts of the country in the function of interpreting and applying law'.³¹ Section 92(14) of the *Constitution Act, 1867* allocates provinces the jurisdiction to enact laws relating to the administration of justice, including the power to constitute, maintain and organise provincial courts of civil and of criminal jurisdiction, even if criminal law is under federal jurisdiction pursuant to s 91(27).

Similarly to Australia, Canadian provinces also hold constitutions and hold legislative power over the province or territory.³² Provincial courts hold a wider gambit of powers in the establishment and amendment of both federal and provincial law-making. This is in contrast to Australian state courts being limited to the regulatory powers of state-based legislation and cases. This power is established pursuant to provincial jurisdiction with law-making powers over provincial and federal statutes. However, the courts established pursuant to s 92(14) confer jurisdiction to provincial courts over a wide range of cases, regardless of whether the statute was enacted pursuant to federal or provincial jurisdiction.³³

3.2.1.3 Comparison of Legal Traditions

The legal origins of British colonialism demonstrate the common legal foundation and similarities between the systems of Australia and Canada. Both countries are constitutional monarchies that place democracy and the separation of powers at the apex of the political and legal framework. The role of the judiciary and a statute-based legal system through state and federal parliaments are similar. Arguably, Australia is increasingly dependent on statute as a law-making device evident in the high volume of Commonwealth legislation passed in the Senate—120 bills passed in the Australian Senate from January to September 2017,³⁴ compared to 36 bills passed by the Parliament of Canada in the same period.³⁵

The most evident difference between the evidently similar legal systems of Australia and Canada is in constitutional power. It is the Commonwealth Government in Australia that holds enumerated powers and the states have plenary powers subject to inconsistency with Commonwealth powers. Conversely, Canada has provinces with enumerated powers, the Federal Government having plenary powers. Consequently, in Canada, the *Constitution Act*,

³¹ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3, s 96.

³² *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3, s 96 Ch V.

³³ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3, s 92(14).

³⁴ Parliament of Australia, *Senate Statistics* (2017)

<http://www.aph.gov.au/Parliamentary_Business/Statistics/Senate_StatsNet/legislation/passed/2017>.

³⁵ Open Parliament, *Bills* (2017) <<https://openparliament.ca/bills/>>.

1867³⁶ provides additional rights to the provinces with respect to lands, mines, minerals and royalties. Parliament does not have authority pursuant to s 91(24) of the *Constitution Act, 1867*³⁷ to take up provincial land for solely provincial purposes, including forestry, settlement or mining. On the other hand, the federal government has a general power to legislate with respect to natural resources upon federal lands. In addition to its general power over sea coast and fisheries, parliament may also obtain jurisdiction over certain provincial works by virtue of its declaratory power.

The key differences between the jurisdictions include the specific powers granted to the provinces, granting the residue of government power to the federal government.³⁸ The Australian Constitution lists the powers of the Commonwealth and tacitly leaves the remaining powers with the states and territories. Consequently, the powers of the Australian Federal Government are considerably broader, particularly via operation of ss 51(xxix) and 96 of the *Australian Constitution* ('the Constitution'), than that of the Canadian Federal Government. In both jurisdictions the constitutional monarchy and the separation of powers is integral to law-making allowing a comparative approach to UGR and agricultural policies.

3.2.2 Role of the State as Regulator of Petroleum Resources

It is the basic premise of petroleum resource development and management that the state in Commonwealth countries is the *in situ* owner and regulator of its UGR industry.³⁹ As the owner of its petroleum resources, it is assumed the state will develop its natural resources for the benefit of its citizens, as examined in Section 2.10. The ownership and management of state resources is affirmed in its petroleum policy to maintain and enforce an effective regulatory framework for the exploitation of its UGRs. Accordingly, this framework must 'assert adequate control over petroleum production, the producers (the participants), and the environment while at the same time seeking to implement national petroleum objectives'.⁴⁰

The Constitution allocates specific powers to the Commonwealth and residual powers to the Australian states as previously examined in Section 3.2. This is reiterated in state onshore

³⁶ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3. A fundamental principle of law in Canada is the supremacy of the Constitution which is enshrined in the *Constitution Act, 1982*. All laws, whether common or legislative, must comply with the Constitution. *The Constitution Act, 1982*, being Schedule B to the *Canada Act 1982* (UK), 1982, c 11.

³⁷ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3.

³⁸ *British North America Act 1867* (UK), 30 & 31 Vict, c 3, ss 91 and 92.

³⁹ David Mercer, *A Question of Balance: Natural Resources Conflict Issues in Australia* (Federation Press, 2000) Ch 5.

⁴⁰ Tina Hunter and John Chandler, *Petroleum Law in Australia* (Lexis Nexis, 2013) 29.

petroleum legislation, specifically ss 9 and 26 of the PA Act which vests the ownership of petroleum in the Crown in Queensland. Consequently, the Commonwealth does not have a specific power to legislate for the production and exploration of mineral and petroleum resources, although s 51 of the Constitution expressly highlights that onshore petroleum and mineral resources do not fall within the domain of the enumerated powers.

UGR activities are regulated by the states and territories in Australia, given that there are no enumerated powers for the Commonwealth Crown to regulate petroleum and mineral activities under the Australian Constitution. However, two sections that could apply to the regulation of UGR are s 51(i) Interstate and Overseas Trade and Commerce or s 51(XX) the power to regulate Corporations within the Constitution. In *Murphyores*, the High Court interpreted the trade and commerce power as ‘purpose’, thereby allowing the Minister to create legislation effectively prohibiting the activities of a company exporting mineral sands, pending the outcomes of an environmental inquiry.⁴¹ *Murphyores* provides a case example of s 51(i) applicability to natural resource law cases by the High Court, holding that the Minister was within his power to prohibit activities of a company exporting certain items due to the commerce and trade powers in the Constitution.⁴² Secondly, the High Court held by a majority in *New South Wales v Commonwealth*⁴³ that the Commonwealth could enact a comprehensive regime of industrial relations law, thus widening the scope of the Corporations Power within the Constitution. However, the External Affairs power of s 51(xxix) of the Constitution provides the legal standing and power for the Commonwealth to regulate environmental matters.⁴⁴

The Australian states and territories hold the Constitutional plenary power or the Imperial empowering legislation⁴⁵ to make legislation for the ‘peace, order (or welfare) and good government’ of the state or the Commonwealth.⁴⁶ This power was interpreted by *BLF v Minister for Industrial Relations*⁴⁷ with the effect of imposing a general limitation on the

⁴¹ *Murphyores Inc Pty Ltd v Commonwealth* (1976) 136 CLR 3; *Commonwealth of Australia Constitution Act 1900* (Cth) s 51(i).

⁴² *Murphyores Inc Pty Ltd v Commonwealth* (1976) 136 CLR 3.

⁴³ *New South Wales v Commonwealth* [2006] HCA 52.

⁴⁴ *Commonwealth of Australia Constitution Act 1900* (Cth) s 51(xxix).

⁴⁵ Australian state constitutions derive their authority from Imperial empowering legislation. *Attorney-General (NSW) v Trethowan* (1931) 44 CLR 394, 424-5.

⁴⁶ *Constitution Act 1867* (Qld) s 2.

⁴⁷ *BLF v Minister for Industrial Relations* (1986) 7 NSWLR 372.

legislature's power to enact legislation that interferes with fundamental democratic rights.⁴⁸ Each state in Australia regulates its licensing and contracting systems to dispose of petroleum production to be developed by private petroleum license holders. Therefore, a petroleum license awarded by a state 'fetters' the property rights on the licensee temporarily (exclusive or non-exclusive rights) by granting a petroleum title over the license area.⁴⁹ Once a license has expired, the state is free to grant an authorisation or transfer proprietary rights. This has led to the classification of petroleum licences as constitutional rights, dependent on the conditions of petroleum exploitation to be possessed or exercised.⁵⁰ Petroleum licenses are similar to all proprietary rights that may be readily transferrable and can be sold, as is the case with other real proprietary rights such as the transfer of land title.

The historical development of petroleum regulation has a similar trajectory in Canada. The key natural resource states of provinces of Alberta, Manitoba, Saskatchewan and British Columbia acquired mineral and petroleum rights from the federal government in 1930 by virtue of the *Natural Resources Transfer Acts, 1930*⁵¹ which rendered the *Dominion Lands Act 1872* obsolete. The Canadian Constitution provides for the allocation of exclusive 'heads of power' between the federal government and provincial governments.⁵² Section 92(5) of the *Constitution Act, 1867* provides provincial governments with the power to regulate the management and sale of provincial public lands, including timber and wood and other natural resources.⁵³ Other sources of provincial constitutional authority to regulate energy projects include municipal institutions;⁵⁴ local, municipal and provincial revenue;⁵⁵ and the enumerated enforcement powers.⁵⁶ Additionally, s 92A of the Constitution confers on each provincial legislature the exclusive authority to make laws regulating non-renewable natural resources:⁵⁷

a) exploration for non-renewable natural resources in the province;

⁴⁸ Ian D. Killey, 'Peace, Order and Good Government: A Limitation on Legislative Compliance' (1989) 17(2) *Melbourne University Law Review* 24, 24.

⁴⁹ In Canada, the standard term for the right to search for and produce petroleum or shale gas is a surface lease and petroleum lease. Surface leases and rights are examined within Chapter five.

⁵⁰ Tina Hunter, *Regulation of the Upstream Petroleum Sector: A Comparative Study of Licensing and Concession Systems* (Edward Elgar, 2015).

⁵¹ Which by scheduled and individual Memorandums of Agreement transferred natural resources regulation to the various Western Canadian provinces.

⁵² Allan Ingelson, 'Strategic Planning for Energy Development in Canada' (2015) 6 *Journal of Energy and Environmental Law* 35, 38; *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3, s 92A(b-c).

⁵³ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3, s 92(5).

⁵⁴ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3, s 92(8).

⁵⁵ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3, s 92(9).

⁵⁶ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3, s 92(15).

⁵⁷ Laws respecting non-renewable natural resources include specifically forestry resources and electrical energy.

- b) development, conservation and management of non-renewable natural resources and forestry resources in the province, including laws in relation to the rate of primary production therefrom; and
- c) development, conservation and management of sites and facilities in the province for the generation and production of electrical energy.⁵⁸

However, s 92A does not derogate power from the authority of the Canadian Parliament to enact laws in relation to natural resources and where such a law of the federal parliament and a law of a province conflict federal jurisdiction will prevail.⁵⁹ Further, the federal government has a general power to legislate with respect to natural resources upon federal lands. In addition to its general power over sea coast and fisheries, Parliament may also obtain jurisdiction over certain provincial works by virtue of its declaratory power. Certain natural resources which would typically fall within provincial jurisdiction can be federally regulated through Parliament's declaratory power. Parliament can declare works situated in the province 'to be for the general Advantage of Canada or for the Advantage of Two or more of the Provinces'.⁶⁰ The regulatory authority of the federal government relates to interprovincial and international trade, falling within the regulation of trade and commerce.⁶¹

Under the *Canadian Environmental Assessment Act 2012*,⁶² the regulations designating physical activities clearly identifies UGR projects on federal lands that may be subject to federal EAs, focusing on projects with potential for significant adverse environmental effects.⁶³ These include offshore natural gas and oil exploration and production; gas processing plants; LNG facilities; and natural gas pipelines regulated by the National Energy Board (NEB).⁶⁴ The *National Energy Board Act 1985*⁶⁵ establishes the NEB as the overarching responsible authority with respect to environmental assessment reports as designating projects that require a certificate be issued for an energy project to proceed.⁶⁶

⁵⁸ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3, s 92A.

⁵⁹ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3, s 92A(3).

⁶⁰ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3, s 92(10)(c).

⁶¹ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3, s 91(2).

⁶² SC 2012, c 19, s 52.

⁶³ *Canadian Environmental Assessment Act*, SC 2012, c 19, ss 52 and 67.

⁶⁴ *National Energy Board Act*, RSC 1985, c 7.

⁶⁵ *National Energy Board Act*, RSC 1985, c 7.

⁶⁶ *National Energy Board Act*, RSC 1985, c 7, s 54.

Therefore, the NEB provides an advisory and authoritative power over the exploration for and the production of energy and energy sources in and outside Canada.⁶⁷

The *Constitution Act, 1867*⁶⁸ gives the provinces jurisdiction over works and undertakings within their boundaries. In situations where oil and gas facilities are within a province but part of a pipeline system, the regulation will fall under federal jurisdiction as it is constructed between two provinces and carries natural gas between two provinces. The Supreme Court of Canada has indicated how oil and gas facilities such as pipelines, gathering and tie-in facilities all within one province may come under federal jurisdiction. According to *Westcoast Energy Inc v Canada (National Energy Board)*:⁶⁹

It is well settled that the proposed facilities may come within federal jurisdiction under s 92(10)(a) of the *Constitution Act 1867* in one of two ways.⁷⁰ First, they are subject to federal jurisdiction of the Westcoast mainline transmission pipeline, gathering pipelines and processing plants, including the proposed facilities, together constitute a single federal work or undertaking. Second, if the proposed facilities do not form part of a single federal work or undertaking, they come within federal jurisdiction if they are integral to the mainline transmission pipeline.

Petroleum rights granted in respect of Crown-owned petroleum rights are by virtue of Crown leases at the provincial level. In British Columbia, the Ministry of Energy and Mines (Title Division) administers Crown petroleum and natural gas rights, and dispositions (permits, drilling licences and leases), by public tenure, are made once a month.⁷¹ The *Land Act*⁷² also expressly states that no granting of Crown land conveys the right to any petroleum, gas, coal, mineral or geothermal resource found in the land.⁷³

3.2.3 Petroleum Property Rights

Historically, petroleum resources in Australia and Canada were bundled together with freehold grants to land for landholders, permitting them access at common law to both subsurface metals and topsoil rights. Exceptions to this were gold and silver, unless the

⁶⁷ According to s 26, (1) The Board shall study and keep under review matters over which Parliament has jurisdiction relating to (a) the exploration for, and the production, recovery, manufacture, processing, transmission, transportation, distribution, sale, purchase, exchange and disposal of, energy and sources of energy in and outside Canada; and (b) the safety and security of pipelines and international power lines. *National Energy Board Act*, RSC 1985, c 7.

⁶⁸ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3.

⁶⁹ *Westcoast Energy Inc v Canada (National Energy Board)* [1998] 27 SCJ.

⁷⁰ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3.

⁷¹ John Bishop Ballem, *The Oil and Gas Lease in Canada* (University of Toronto Press, 2008).

⁷² *Land Act*, RSBC 1996, c 245.

⁷³ *Land Act*, RSBC 1996, c 245, s 50.

Crown had reserved the right to the minerals in a deed of grant.⁷⁴ Consequently, the state had largely been content to dispose of land for the purposes of mining, thereby permitting the property in the minerals to pass to the land freehold owner.⁷⁵

Land granted in fee simple does not equate to absolute ownership in Queensland. This differs to the US, where ownership of subsurface rights in a private ownership framework parallels the UGR leasing process being a private transaction between landowners and UGR titleholders.⁷⁶ The framework for land and mineral ownership in the US stems from the fundamental common law maxim, *cujus est solum, ejus est usque ad coelum et ad inferos*, meaning whoever owns the soil also owns ‘up to the sky and down to the depths’.⁷⁷ In most states of the US, the maxim continues to function as the primary and paramount regulatory mechanism for surface estate ownership over *in situ* subsurface minerals such as coal.⁷⁸ However, specific to UG, the US judiciary has upheld the common law principle of ‘the rule of capture’ as the fundamental ownership principle on which the entire framework for oil and gas law.⁷⁹ The rule of capture also allows a landowner who has induced the gas to their possession to claim the gas even though it may have formerly been deposited under another’s land. Once captured, the holder will retain full common law ownership of the gas subject only to public policy obligations and regulatory restrictions.⁸⁰

In contrast, the doctrine of tenure and the subsequent legislative implementation of these principles in Australia and Canada bestows ownership of all land with the Crown,⁸¹ which is charged with granting a fee simple interest in land to landholders. As a consequence, UGR licenses are issued over fee simple estates of private landholders.⁸² Crown pastoral leasehold

⁷⁴ Brendan Edgeworth, *Butt’s Land Law* (Thompson Reuters, 7th ed, 2017).

⁷⁵ Brendan Edgeworth, Chris Rossiter, Pamela O’Connor and Andrew Godwin, *Sackville & Neave Australian Property Law* (Lexis Nexis, 10th Edition, 2016).

⁷⁶ Alexandra Klass and Hannah Wiseman, *Energy Law* (West Academic, 2016).

⁷⁷ John Sprankling, ‘Owning the Centre of the Earth’ (2008) 55 *UCLA Law Review* 979.

⁷⁸ Owen L. Anderson, ‘Lord Coke, the Restatement and Modern Subsurface Trespass Law’ (2011) 6 (2) *Texas Journal of Oil, Gas, and Energy Law* 203.

⁷⁹ Terence Daintith, *Finders Keepers?: How the Law of Capture Shaped the World Oil Industry* (Routledge, 2010); Joel B. Eisen, Jim Rossi, *Energy, Economics, and the Environment: Cases and Materials* (Foundation Press, 2010).

⁸⁰ Terence Daintith, above n 77.

⁸¹ This reservation is found in s 26 of the *Petroleum and Gas (Production and Safety) Act 2004* (Qld) and s 49 of the *Land Act*, RSBC 1996, c 245 in British Columbia.

⁸² Mark Thompson and Martin George, *Thompson’s Modern Land Law* (Oxford University Press, 2017).

is common in rural Australia,⁸³ with a long history as a flexible proprietary instrument to secure economic and social development of agriculture.⁸⁴

Title to petroleum is generally transferred from the Crown to an oil and gas company with the issue of a licence or lease and ‘ownership’ of that resource transfers from the Crown to the titleholder at the wellhead, which is also when royalties are calculated and paid to the state.⁸⁵ The state’s petroleum legislation then requires a petroleum licence holder to pay a petroleum royalty and the annual rent prescribed under the relevant regulation being the PGPSA in Queensland and the *Petroleum and Natural Gas Act, 1996*⁸⁶ (PNGA) of British Columbia.

The Torrens system of private land titles is applicable both in Australia and the four western Canadian provinces and is intended to give certainty to the title.⁸⁷ Under the Torrens system, the party named as the owner in a certificate of title possesses an indefeasible title ‘against all the world’,⁸⁸ subject to fraud and certain specified common law and statutory exceptions. It follows that the current certificate of title, bearing the name of the registered owner, is conclusive evidence of title in favour of any party dealing with the owner in good faith and for valuable consideration.⁸⁹ Torrens legislation operates at the provincial and state level in both Australia and Canada.⁹⁰

Three broad categories of onshore petroleum titles exist under legislation in Queensland and British Columbia—permitting exploration (authority to prospect in Queensland is the authority to prospect), permitting production and permitting pipelines. The formal requirements of a petroleum production title vary in Queensland and British Columbia. Nevertheless, both jurisdictions require the applicant for an UG tenement to detail the application area; proposed program of work and expenditure, including environmental protection measures; evidence of financial and technical capacity; and a specified or

⁸³ About two thirds of Queensland’s total land area is leasehold and the bulk of that area comprises leases issued for pastoral, grazing or agricultural purposes. A pastoral lease means a pastoral holding, preferential pastoral holding, pastoral development holding or stud holding. *Land Act 1994* (Qld) sch 6.

⁸⁴ Julie Brunner and John Glasson, *Contemporary Issues in Australian Urban and Regional Planning* (Routledge, 2015).

⁸⁵ Tina Hunter, above n 48.

⁸⁶ RSBC 1996, c 361, pt 10.

⁸⁷ Greg Taylor, *Law of the Land: The Advent of the Torrens System in Canada* (University of Toronto Press, 2008). The Torrens Title System, originating in South Australia, replaced the inherited Anglo-Canadian common law system of deeds registration in Canada from the 1860s.

⁸⁸ *Turta v Canadian Pacific Railway*, [1954] SCJ 31.

⁸⁹ Edgeworth et al., above n 73.

⁹⁰ As regulated by the relevant state or provincial property law statutory and judicial regime.

prescribed fee.⁹¹ Further, in Queensland, the applicant must declare that deposits of petroleum have been discovered and must lodge a proposed development and production program.⁹²

Surface rights in British Columbia are governed by the PNGA, including all aspects of exploration, development and production, providing for the entry, occupation or use of publicly held land for the purposes of exploration and development of UGR. To exercise subsurface rights to develop a UGR well, a surface lease must be negotiated with existing land owners which, in British Columbia, generally means the Crown or Aboriginal peoples.

In both jurisdictions, once extracted, the proprietary rights of the UG are vested in the petroleum titleholder rather than the fee simple landholder. The right to exclude others from a landowner's property is fundamental to the ownership of real property in Commonwealth jurisdictions, with the absence of consent (whether implied or express) creating a possible action in trespass.⁹³ However, petroleum titleholders already have this consent via the relevant petroleum Act and, therefore, this entitlement is largely void in Queensland and British Columbia.

As discussed in Section 1.5, the PGPSA defines CSG as 'petroleum (in any state) occurring naturally in association with coal or oil shale, or in strata associated with coal or oil shale mining'.⁹⁴ Therefore, the exploration for and production of UGR in Queensland is principally regulated by the PGPSA. Accordingly, UG falls within the statutory definition of 'petroleum' in most Australian jurisdictions.⁹⁵ The *Petroleum and Other Legislation Amendment Regulation 2011* (Qld) introduced the requirements for holders of tenure under the PA Act and the PGPSA to give to each owner and each occupier of land, on which the relevant UGR activities are to be carried out, at least ten business days' notice prior to commencement of petroleum exploration and a form of land access agreement prior to exploitation activities, such as drilling a well and hydraulic fracturing activities.⁹⁶ These notice periods are in

⁹¹ As regulated primarily by the *Petroleum and Gas (Production and Safety Act) 2004* (Qld) and the *Petroleum and Natural Gas Act*, RSBC 1996, c 361.

⁹² *Petroleum and Gas (Production and Safety Act) 2004* (Qld) s 318.

⁹³ A. R. Buck, *The Making of Australian Property Law* (Federation Press, 2006).

⁹⁴ *Petroleum and Gas (Production and Safety) Regulation 2004* (Qld) s 299(1).

⁹⁵ In Victoria, the meaning of 'petroleum' does not include any naturally occurring hydrocarbon, or mixture of hydrocarbons, within a deposit of coal or oil shale *Petroleum Act 1998* s 6 (Vic).

⁹⁶ *Minerals and Energy Resources (Common Provisions) Act 2014* (Qld) div 3. The entry and land access agreement requirements for preliminary and advances petroleum activities is examined in Chapter five.

addition to notice of completion of the hydraulic fracturing activities which must be served within ten business days.⁹⁷

The exploitation of UGR has generated considerable landowner antagonism in Queensland, particularly in agricultural areas, prompting the need for a fundamental re-evaluation of the core division between surface rights and Crown petroleum ownership.⁹⁸ The legislature responded by introducing landowner CCAs as regulated by the PGPSA.⁹⁹ This initiative has, however, created dense multi-layered review processes and complex regulatory interactions that have arguably not satisfied the UGR industry or the affected communities, as evident in recent introduction and overhaul of previous land access agreement provisions into a single regulation, the MERCPA.

In British Columbia, UGR development is primarily governed by the OGC through a three-phase approval process established in accordance with the PNGA,¹⁰⁰ together with the OGAA and the Code of Practice for the Discharge of Produced Water from Coalbed Gas Operations promulgated under the *Environmental Management Act*.¹⁰¹ The OGAA enables regulation of surface land use primarily through the Environmental Protection and Management Regulation (EPMR). The EPMR regulates actions a permit holder and a person carrying out an oil and gas activity must take, or refrain from taking, to protect and/or effectively manage the environment.

The PNGA states petroleum and natural gas rights are the property of the British Columbia Crown. The rights granted depend on the nature of the Crown disposition, however, a lease grants to the lessee the exclusive right to produce both petroleum and natural gas¹⁰² from the location of the lease. The PNGA defines petroleum as meaning ‘crude petroleum and all other hydrocarbons, regardless of gravity, that are or can be recovered in liquid form from a pool through a well by ordinary production methods or that are or can be recovered from oil sand or oil shale’.¹⁰³ Natural gas is defined as ‘all fluid hydrocarbons, before and after processing, that are not defined as petroleum, and includes hydrogen sulphide, carbon dioxide and helium

⁹⁷ *Petroleum and Gas (Production and Safety) Regulation 2004* (Qld) s 141(3).

⁹⁸ Katherine Curnow, Tina Hunter, Michael Weir and Laurence Boulle, ‘Negotiation and Regulation of Land Access Agreements: Lessons from Queensland’ (2017) 10 *Journal of World Energy Law and Business* 117.

⁹⁹ Conduct and Compensation Agreements, Deferral Agreements and Opt-Out Agreements provisions are now found in the *Minerals and Energy Resources (Common Provisions) Act 2014* (Qld) div 2 s 45.

¹⁰⁰ RSBC 1996, c 361.

¹⁰¹ SBC 2003, c 53.

¹⁰² *Petroleum and Natural Gas Act*, RSBC 1996, c 361, s 50(1) provides that ‘[a] lease shall be a petroleum and natural gas lease’.

¹⁰³ RSBC 1996, c 361, s 1.

produced from a well'.¹⁰⁴ The *Coalbed Gas Act*¹⁰⁵ states that 'a natural gas tenure, whether made before or after the coming into force of this Act, includes any coalbed gas rights'.¹⁰⁶

The freehold petroleum and natural gas lease is the document that governs the relationship between a freehold owner of mineral rights and a party contracting to exploit and develop the petroleum and natural gas and related substances owned by the freehold owner. The standard freehold petroleum and natural gas lease in use in the oil and gas industry in Canada is the Canadian Association of Petroleum Landmen (CAPL) lease, 'which enjoys almost universal acceptance in the industry'.¹⁰⁷

In Canada, the basic purpose of a freehold petroleum and natural gas lease is to establish a contractual arrangement between the registered owner, or the party entitled to become the registered owner, and the lessee, which allows the lessee to explore for petroleum and natural gas and to produce the petroleum and natural gas if those substances are found.¹⁰⁸ The oil and gas company who enters into a petroleum and natural gas lease benefits due to the payment of an initial bonus consideration for entering into the lease and receipt of a stipulated royalty percentage if leased substances are ultimately produced. The freehold lease must provide security to the lessee that the lease will continue if a successful well is drilled and must ensure from the lessor's perspective that the lands are developed or become available for re-leasing. The main provisions of the lease are concerned with balancing the interests of the lessor and lessee.

Regardless of the particular form of a freehold petroleum and natural gas lease, certain clauses typically appear in all freehold leases:

- a) a granting clause, which conveys an interest in the leased substances for a primary term
- b) a 'thereafter' or '*habendum*' clause, which provides for continuation of the lease so long as production or operations continue
- c) a delay rental clause, which provides for periodic payments to continue the lease in the absence of the drilling of a well in the first lease year and any succeeding year during the primary term

¹⁰⁴ *Petroleum and Natural Gas Act*, RSBC 1996, c 361, s 1.

¹⁰⁵ RSBC 2003, c 18.

¹⁰⁶ *Coalbed Gas Act*, SBC 2003, c 18, s 4(1).

¹⁰⁷ John Bishop Ballem, above n 69, 4.

¹⁰⁸ Alastair R. Lucas and Constance Hunt, *Oil and Gas Law in Canada* (Carswell, 1990).

- d) a shut-in royalty clause, which provides for a payment in the amount of the delay rental to continue the lease if there is a failure or interruption of production during a lease year
- e) royalty payments based upon production from the leased lands and compensatory royalty payments based upon production from an offsetting well located on a spacing unit laterally adjoining the leased lands
- f) a surrender clause, which allows the lessee to terminate its obligations under the lease at any time
- g) provisions dealing with the effect of poolings and unitizations
- h) provisions relating to the effect of a default by the lessee under the lease and the actions that must be taken by the lessor to obtain a remedy due to a default.¹⁰⁹

3.2.4 Regulatory Harmonisation in Australia

The Standing Council of Energy and Resources (SCER) developed the *Harmonised Regulatory Framework for Natural Gas from Coal Seams* (the Harmonised Framework), released in 2013, to address issues of regulatory inconsistency among states and providing a set of guiding principles in the management of CSG to ensure regulatory regimes are ‘robust, consistent and transparent across all Australian jurisdictions’.¹¹⁰ The Harmonised Framework addresses including issues of community concerns, including, well integrity, water management and monitoring, hydraulic fracturing and the use and disclosure of chemicals in operations.¹¹¹

The Harmonised Framework consists of non-binding policy recommendations in relation to UGR, as to opposed to binding regulation or binding regulatory advice, as the Commonwealth does not have an inherent power to regulate UGR.¹¹² The Harmonised Framework, although titled a regulatory framework, does not regulate these aspects of UGR development. This would be incompatible with the Constitutional position that natural resource regulatory powers lies with the states and territories. The Harmonised Framework seeks to identify leading practices to guide regulators to provide a harmonised approach to managing UGR in

¹⁰⁹ Michael A. Thackray, *Oil and Gas* (Lexis Nexis, 2013) 40.

¹¹⁰ Standing Council on Energy and Resources, *The National Harmonised Regulatory Framework for natural Gas from Coal Seams* (2013) <http://www.coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/National-Harmonised-Regulatory-Framework-for-Natural-Gas-from-Coal-Seams_1.pdf>3.

¹¹¹ Ibid, 15. As discussed in Section 3.1 above.

¹¹² Tina Hunter, ‘The Development of Shale Gas and Coal Bed Methane in Australia: Best Practice for International Jurisdictions?’ (2016) 38(2) *Houston Journal of International Law* 367.

Australia. These identified leading practices aim to provide policy guidance to the state in developing regulatory tools required for effective UGR regulation.

The SCER recognises the following principle as creating ‘good’ or effective regulatory practice for UGR in Australia by ‘ensuring that regulation remains relevant and effective over time’.¹¹³ It also recommends the adoption of principles-based or ‘objective’ regulation, as examined in Chapter 2 of this thesis. The SCER recognises regulators should ‘steer’ away from prescriptive rule-based regulation towards principles-based objective regulation to provide ‘discretion (for) regulators, which potentially creates regulatory uncertainty, however it also provides an environment that fosters more innovative practices and developments’.¹¹⁴

As a result of the Harmonised Framework, SCER released the MLUF specifically aimed at providing guidance on challenges arising from competing land use, land access and land use change.¹¹⁵ The MLUF seeks to provide an ‘adaptive’¹¹⁶ management approach to land use development.¹¹⁷ Similar to the Harmonised Framework, the MLUF provides non-binding guiding principles for activities to achieve multiple sequential land use outcomes including:

- best use of resources
- coexistence
- strategic planning
- tailored participation of communities and landholders
- engagement and information
- decision-making and accountability
- efficient processes
- accessible relevant information.¹¹⁸

The MLUF recognises that development of many Australian industry sectors is reliant on access to land, inclusive of multiple stakeholder needs covering economic, environmental, heritage, societal and cultural values. The MLUF proposes an adaptive management, rather

¹¹³ Standing Council on Energy and Resources, above n 108, 15.

¹¹⁴ Ibid, 75.

¹¹⁵ Ibid.

¹¹⁶ Ibid, 2.

¹¹⁷ Adaptive management is the current regulatory approach to UGR regulation in Queensland as discussed in Chapter 2.

¹¹⁸ Standing Council on Energy and Resources, *Multiple Land Use Framework* (2014) <<http://www.coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/Multiple%20Land%20Use%20Framework%20-%20Dec%202013.pdf>> 3.

than a technical, approach to regulation is needed: ‘a blend of adaptive and technical responses is needed to achieve multiple and sequential land use outcomes’.¹¹⁹ However, the MLUF solely relies upon existing regulations and case studies as adequate and in satisfaction of its guiding principles as:

The MLUF does not propose any significant change in existing accountabilities, roles and responsibilities of the different State and Territory government agencies. It does not seek to impose any significant additional responsibilities onto resource companies.¹²⁰

The MLUF restates and relies upon many of the provisions already in place in the regulatory environment as successful in protecting and balancing land uses in Australia. It reiterates that it is the responsibility of the states and territories to envisage practical solutions to translate the aspirational ideas of the MLUF into regulation as ‘The State and Territories resource agencies will be the driver for designing the implementation model’.¹²¹

This policy position adheres to the doctrine of government agendas with the concept of adaptive management for regions to implement and create regulations from aspirational policy ideas. For example, it is stated the MLUF aims ‘to enable the minerals and petroleum sector to effectively and efficiently meet the land access and use challenges, expectations and opportunities confronting the sector’.¹²² Use of such language does not engender wider support, particularly when one of the major challenges is access to private land.¹²³ Queensland has not expressly adopted or supported either the Harmonised Framework or MLUF. Therefore, both frameworks do not feature in the detailed analysis of Queensland’s land use and land access regimes undertaken in Chapters 4 and 5 of this thesis.

3.2.5 Licensing and Contractual-Based Authorisation

By reserving petroleum resources, the Crown authorises the grant of titles (exploration and production licences) over land owned in fee simple (a type of freehold interest) or held as leasehold estates. The state-based ownership framework in Queensland and British Columbia is known as the dominial or regalian system and originates ‘from the right imposed by the sovereign monarch, upon the owner of the mining fields, to secure payment or participation in

¹¹⁹ Standing Council on Energy and Resources, *Ibid*, 18.

¹²⁰ *Ibid*, 30.

¹²¹ *Ibid*, 19.

¹²² *Ibid*, 10.

¹²³ Taylor, Madeline, ‘Trends in Current Australian Agricultural Policy and Land Resource Management’ (2015) 33 *Corporate Governance eJournal* 1.

the extracted mining product'.¹²⁴ At a broad level, Canada and Australia have similar licensing systems that underpin the states' proprietary regulation to manage the exploitation of petroleum resources. Such commonalities derive from both jurisdictions' origins as a British colony, subject to the common law legal system.

A state-based ownership regime depends upon the constitutional legitimacy of the legislative provisions that confer ownership in subsurface minerals upon the state. In both Australia and Canada, the mining and petroleum legislation has a state or provincial focus and this precludes the vesting provisions from being subject to any application of their respective Constitutions. The statutory vesting of mineral ownership gives the state the power to issue titles to oil and gas companies over privately held freehold land, Crown leases and land that is subject to native title claims.¹²⁵ This has been described as the 'concession system', whereby the state, as the original owner of mineral resources, grants rights for the exploration and exploitation of minerals to an applicant, provided the applicant meets objective and impersonal legal requirements.¹²⁶ The concession framework allows the state to confer permissive rights to extract subsurface minerals to private mining companies who acquire rights to access, explore and produce subsurface UG.

In this respect, petroleum licenses do not constitute ownership interests in the subsurface strata nor do they constitute incorporeal hereditaments. Rather, they amount to statute-based permissive entitlements that allow the holder to carry out specific exploration, retention or production rights. The granting of a petroleum license by the state is generally only a temporary right to exploit a mine or reservoir, rather than severing the state right altogether—once a petroleum license has expired, the subsurface rights of the estate will continue to be the property of the state.¹²⁷ Once a subsurface natural resource is actually produced, however, ownership of the produced resource is then transferred from the state to the license holder via statutory vesting provisions, being the PGPSA in Queensland and the PNGA and OGAA in British Columbia.

¹²⁴ Daintith, above n 77.

¹²⁵ Donald N Zillman, Aileen McHarg, Adrian Bradbrook and Lila Barrera-Hernandez (eds), *The Law of Energy Underground: Understanding New Developments in Subsurface Production, Transmission, and Storage* (Oxford University Press, 2014).

¹²⁶ Michael Crommelin, 'The Legal Character of Resources Titles' (1998) 17 *Australian Mining and Petroleum Law Journal* 57.

¹²⁷ Andreas Goldthau, *The Handbook of Global Energy Policy* (John Wiley & Sons, 2016) 130.

In Queensland, petroleum titleholders must negotiate land access agreements with landholders (including Indigenous native titleholders),¹²⁸ as regulated by the LAC and PGPSA. In British Columbia, once the province has granted a petroleum and gas tenure agreement, the titleholder is required to negotiate a surface lease agreement with the private landholder as regulated by the Surface Rights Board (SRB) and PNGA.¹²⁹

The surface lease agreement governs the terms of entry and access on private fee hold land. If a landowner surface lease agreement cannot be reached through negotiation, a PNGA tenure holder may apply for a SRB Right of Entry Order or a land expropriation agreement whereby the municipal government compulsorily acquire by the ‘taking of land by an expropriating authority under an enactment without the consent of the owner’.¹³⁰

In Queensland, an authority to prospect, while it remains in force, authorises the title holder to explore exclusively for petroleum and to carry out such operations and execute such works as are necessary for that purpose in the title area.¹³¹ However, in Queensland, there is no express prohibition to explore for petroleum except under and in accordance with an exploration title or as otherwise permitted by the PGPSA. Unlike other Australian states and territories, Queensland does not limit the area over which the title is renewed or prescribed portion of the area over which the exploration title was originally granted. An annual expenditure requirement for drilling and operations must be conducted ‘in a good and skilful manner in accordance with recognised and approved methods and practice to the satisfaction of the Minister’.¹³² The holder of a lease must take all reasonable precautions to prevent ‘waste of petroleum; and must carry out all reasonable directions of the Minister specifically regarding prevention of waste; and generally, regarding methods of operation’.¹³³

The award of petroleum licenses, leases and proprietary rights are similar in Queensland and British Columbia. Both jurisdictions regulate onshore UGR activities under the relevant petroleum legislation and develop regulatory tools accordingly to manage the development of UGR. The longstanding practice of ‘cooperative federalism’ in which the federal and provincial governments have coordinated their activities within their respective spheres of

¹²⁸ In the form of Indigenous Land Use Agreements (ILUAs). Indigenous and native title rights in relation to unconventional gas contestation is beyond the scope of this thesis.

¹²⁹ Surface leases in British Columbia are examined in Chapter five.

¹³⁰ *Canadian Pacific Railway Co v Vancouver (City)* [2006] 1 SCR 227, 45.

¹³¹ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 32.

¹³² *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 47.

¹³³ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 47.

jurisdiction to address UGR issues is evident in Canada.¹³⁴ However, due to its lack of federally held Crown lands, the Australian Federal Government is in a different position to the Canadian Federal Government. The residual constitutional power in Australia is explicitly at the state level, with most natural resources also subject to proprietary ownership at the state level. Ownership (and, therefore, the regulation) of mineral and petroleum resources fall within the regulatory jurisdiction of the individual states and territories. Australia's division of powers concerning UGR is more 'decentralised' than in Canada.¹³⁵

3.3 Unconventional Gas Market

There has been a dramatic increase over the past two decades in both the production and exploitation of natural gas with recent advances in the exploitation of UGR hailed as a 'game changer'¹³⁶ in the global energy market. World LNG trade is forecast to increase at an average annual rate of 7.4% a year and projected to reach 320 million tonnes in 2019.¹³⁷ Australia is an important global supplier of natural gas and a top supplier of LNG. The development of Australia's natural gas resources in recent years has seen a 50% rise in the volume of LNG produced since 2015, with 45 million tonnes of LNG exported in 2016 to meet the seemingly insatiable appetite of Japan, South Korea and China.¹³⁸ Indeed, the size of Australia's onshore UGR, in combination with its conventional offshore gas reserves, has seen it move from the world's sixth-largest LNG exporter in 2013 to the second-largest LNG exporter as of June 2017.¹³⁹ The value of Australia's LNG exports increased by 8% in 2014–2015 to 1,363 petajoules (32 million tonnes) and is forecast to increase from an estimated A\$23 billion in 2016–2017 to A\$37 billion in 2018–2019.¹⁴⁰

Over 90% of Australia's CSG reserves (around 42,000 petajoules) are located in Queensland's Bowen and Surat Basins, while smaller reserves are located in the Clarence–Moreton, Gunnedah, Gloucester and Sydney Basins in New South Wales.¹⁴¹ Queensland's

¹³⁴ Allan Ingleson and Tina Hunter, 'A Regulatory Comparison of Hydraulic Fracturing Fluid Disclosure Regimes in the United States, Canada and Australia' 54 *Natural Resources Journal* 224.

¹³⁵ *Ibid.*, 225.

¹³⁶ Susan L. Sakamar, *Energy for the 21st Century: Opportunities and Challenges for Liquefied Natural Gas (LNG)* (Edward Elgar, 2013) 284.

¹³⁷ Silvia Colombo, Mohamed El Harrak and Nicolò Sartori, *The Future of Natural Gas: Markets and Geopolitics* (Lenthe, 2016).

¹³⁸ Commonwealth of Australia, Department of Industry, Innovation and Science, *Gas Resources and Energy Quarterly June 2017* (2017).

¹³⁹ *Ibid.*, 20.

¹⁴⁰ *Ibid.*, 21.

¹⁴¹ *Ibid.*, 11.

UGRs are primarily located on privately owned agricultural land in the Darling Downs agricultural region in Queensland. Consequently, Crown reservation over mineral resources occurs and the fee simple titleholder is required to grant access to petroleum titleholders.

UGR development has a dispersed geospatial footprint as a result of the broad distribution of the natural resource, the geology of the reservoirs containing the gas, the manner in which the gas is extracted and the technologies and associated infrastructure required to develop it. As a result of these factors, the commercialisation of LNG for export and the concurrent development of this industry have had a significant impact on local communities, including economic impacts and changes to demographics and social structures, with flow-on effects evident in measures of community wellbeing.¹⁴² Land access and land use in predominantly agricultural regions of Queensland when exploiting UGR are significant regulatory issues facing all resource developments. However, in contrast to coal mining, where the land to be mined is purchased and all other activities halted due to the large-scale strip mining, existing land uses continue to cohabit over a large area where UGR activities occur—that is, UGR wells are being drilled on active farms and grazing properties. The overlap of activities exposes a larger number of people to the social and economic impacts of the resource development.

Canada is ranked as the world's fifth-largest natural producer, with marketable natural gas production in 2018 expected to equate to 437 106 m³/d (15.4 Bcf/d),¹⁴³ representing 4.7% of world production.¹⁴⁴ As at 2016, Alberta holds the largest marketable gas production by province, accounting for 71% of gas production, followed by British Columbia at 26%, Saskatchewan at 2% and Nova Scotia at 1%.¹⁴⁵

British Columbia's wealth of emerging sources of shale and tight gas are changing the dynamics of Canadian supply, accounting for 30% of Canada's natural gas resources, 90% of which is found in the Montney Shale (a tight UGR play) and the Horn River Basin (a shale UGR play).¹⁴⁶ The four major UGR regions—the Horn River Basin, the Liard Basin, the Cordova Embayment and the Montney play region—are in Northeast British Columbia. The

¹⁴² Hunter and Chandler, above n 38, 1.

¹⁴³ National Energy Board, *Canada's Energy Future 2016* <<https://www.neb-one.gc.ca/nrg/ntgrtd/fttr/2016/2016nrgftr-eng.pdf>> 64.

¹⁴⁴ National Energy Board, *ibid.*

¹⁴⁵ Natural Resources Canada, *Natural Gas Facts* (2017) <<http://www.nrcan.gc.ca/energy/facts/natural-gas/20067>>.

¹⁴⁶ Canadian Energy Research Institute, *Canadian Natural Gas Market Review* (2016) 6.

Westcoast natural gas pipeline system is primarily in British Columbia, but extends into Alberta, Yukon and the Northwest Territories. The 2,800 km system connects to several pipelines at Sumas in Washington, including the Northwest Pipeline, feeding Canadian natural gas into the Pacific Northwest. Wellhead production of marketable gas in British Columbia in 2016 was 1.7 tcf per year, with 56% delivered to other regions of Canada 33% exported to the US and 11% used domestically.¹⁴⁷

3.4 Policy Development and Influence on Unconventional Gas Resource and Agricultural Regulation

Klein and Marmor define policy as ‘what governments do and neglect to do’.¹⁴⁸ Policy is the term used to describe specific choices by a state, but the notion also embraces general directions and philosophies. Given the wide array of definitions for policy, policy is described in three different but compatible ways by Althaus, Bridgman and Davis:

First, policy can be an authoritative choice of a government. Second, policy is a hypothesis, an expression of theories about cause and effect. Finally, policy is explored as the objective of governmental action.¹⁴⁹

A state’s petroleum policy represents the current position and focus of the relevant government in developing its petroleum resource including political, fiscal and economic policies. Consequently, petroleum policy is developed through a complex network of factors including the geolocation of a country, petroleum potential, political development, infrastructure and its regulation. The basis of a successful exhaustible natural resources policy is premised upon four cornerstones according to de Sa:

- 1) a competitive, stable and fair fiscal regime
- 2) a transparent legal and regulatory framework
- 3) strong institutions to implement them
- 4) sound environmental management systems.¹⁵⁰

¹⁴⁷ Canadian Association of Petroleum Producers, *British Columbia’s Oil and Natural Gas Industry* <<http://www.capp.ca/~media/capp/customer-portal/publications/307685.pdf>> (2016) 2.

¹⁴⁸ Rudolf Klein and Theodore Marmor, ‘Reflections on Policy Analysis: Putting it Together Again’ in Robert E Goodin (ed), *The Oxford Handbook of Political Science* (OUP Oxford, 2011) 7.

¹⁴⁹ Catherine Althaus, Peter Bridgman, Glyn Davis, *The Australian Policy Handbook* (Allen & Unwin, 2012) 6.

¹⁵⁰ Paulo de Sa, ‘Mineral Policy: A World Bank Perspective’ in E Bastida, T Walde and J Warden-Fernandes (eds), *International Comparative Mineral Law and Policy* (Wolters Kluwer, 2005) 492, 494.

Dworkin's theory of policy taxonomy also comprises the legal theory of principle, policy and rules related to the development of natural resource policy comprising:

- principles, the norms protecting individual rights
- policies, the norms promoting collective goals
- rules, implementing the principles and policies.¹⁵¹

In particular, Dworkin sees policy as a kind of standard that sets out a goal to be reached, generally an improvement in some economic, political or social feature of the community in that they stipulate that some present feature is to be protected from adverse change.¹⁵² Therefore, both policy and principles are set apart from rules, which are the legislative instruments that outline what the law is.¹⁵³ As each state has the sovereign right to develop its natural resources, its policy and tools to develop its corresponding regulation will develop and implement economic diversification of its natural resource sector.¹⁵⁴

Regulation based on petroleum policy that governs petroleum development is based upon the taxonomy of principles, policy and rules as summarised by Hunter and Chandler:

Principles are the overarching values that exist, allowing a sovereign state to exploit its resources. Policies are generally the current position or focus of a government in developing a natural resource, and will encompass political and fiscal policies...rules are the actual legislation established by the parliament.¹⁵⁵

An effective petroleum policy, which by extension gives rise to effective regulation (as explored in Chapter 2), must balance the interdependence between the state as owner of petroleum resources and private natural resource companies as petroleum explorers and exploiters.¹⁵⁶ Therefore, a petroleum policy must secure possession of and access to its petroleum resources effectively in allowing the development of its resources by private actors while ensuring long-term sustainability of land use and land access in the exploited area.

¹⁵¹ Richard Dworkin, *Taking Rights Seriously* (Harvard University Press, 1997).

¹⁵² Dworkin, *ibid*, 77.

¹⁵³ *Ibid*.

¹⁵⁴ Tina Hunter, 'Law and Policy Frameworks for Local Content in the Development Of Petroleum Resources: Norwegian and Australian Perspectives on Cross-Sectoral Linkages and Economic Diversification' (2014) 14 (2-3) *Mineral Economics* 115, 120.

¹⁵⁵ Hunter and Chandler, *above n* 38, 41.

¹⁵⁶ *Ibid*.

3.5 Comparative Context of Australian and Canadian Unconventional Gas Policy and its Implications for Landholders

Australia's current petroleum policy, established in 1998 and outlined in the *Minerals and Petroleum Resources Policy Statement*, seeks to provide investors with a positive, strong and stable framework of government policies to ensure certainty for investors, minimise investment impediments and promote investment.¹⁵⁷ The aim of this policy is to ensure that Australia remains a reliable long-term supplier to the world's resources and energy markets. The current Australian gas policy strategy is outlined as follows:

- 1) improving gas markets to enable better access and price discovery for all market participants including customers
- 2) understanding and responding to potential social impacts to build confidence that community needs and expectations will be properly considered
- 3) understanding and communicating the science to build confidence in the community that risks and environmental impacts can be managed
- 4) attracting investment and encouraging steady and predictable supply through better regulation
- 5) tailoring production technologies for Australia to ensure we are making the most of our resources
- 6) establishing an Oil, Gas and Energy Resources Industry Growth Centre to accelerate advancements within the industry
- 7) improving access to geo-scientific precompetitive data to understand our resources and attract investment
- 8) demonstrating the macroeconomic benefits to build community confidence
- 9) learning from mistakes and successes of other jurisdictions through sharing knowledge.¹⁵⁸

The EPBCA gives practical effect and enactment to environmental treaties to which Australia is a party in a wide variety of environmental law contexts including biodiversity protection. However, the EPBCA does not apply as a broad Commonwealth power to regulate all petroleum activities. It applies only where a petroleum activity falls within the scope for

¹⁵⁷ Commonwealth of Australia, *Minerals and Petroleum Resources Policy Statement: A Framework for Sustainable Growth* (1998).

¹⁵⁸ Australian Government, Department of Industry and Science, *Domestic Gas Strategy: Australian Government Policy and Actions* (2015).

referral under the EPBCA. Therefore, the EPBCA by default does not regulate the petroleum activities in states and territories, however, it is applicable to matters that has, will have or is likely to have ‘a significant impact on a matter of environmental significance pursuant to ss 11 and 130’.¹⁵⁹ A ‘significant impact’ is defined by the Commonwealth Department of Environment and Energy as ‘an impact which is important, notable, or of consequence, having regard to its context or intensity’.¹⁶⁰

Matters of Environmental Significance (MNES) are specified in ch 2 of the EPBCA as:

- world heritage properties
- national heritage places
- wetlands of international importance (listed under the Ramsar Convention)
- listed threatened species and ecological communities
- migratory species protected under international agreements
- Commonwealth marine areas
- the Great Barrier Reef Marine Park
- nuclear actions (including uranium mines)
- a water resource, in relation to CSG development and large coal mining development (Water Trigger).

In the event that a project is classified as a MNES, the project can be referred by either the project proponent, Minister or a state or Commonwealth government agency to determine whether an action is within the ambit of assessment under the EPBCA. Once a project is referred, the application is assessed as to whether the Minister must assess an action on the grounds of the project posing a ‘significant risk and impact’ to a MNES listed. If it is deemed there is no likelihood of a significant risk the project will not be referred to the Minister for EPBCA assessment. In the alternative, where an action is classified as a ‘controlled action’,¹⁶¹ the project is referred to the Minister and will be assessed for approval. If approved, the action will be assessed under the normal exploration licence and approval process under the PGPSA.¹⁶²

¹⁵⁹ *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

¹⁶⁰ Commonwealth Department of Environment and Energy, *Significant Impact* (2017) <<http://www.environment.gov.au/epbc/about/glossary#significant>>.

¹⁶¹ *Environmental Protection and Biodiversity Conservation Act 2004* (Cth) ss 67, 67A.

¹⁶² *Environmental Protection and Biodiversity Conservation Act 2004* (Cth) ss 133, 134, 145.

The ‘Water Trigger’ amendments to the EPBCA introduced protection of water resources from CSG developments and large coal mining developments with a ‘significant impact’ on water resources.¹⁶³ However, it must be noted the Water Trigger is limited to water resources, not agricultural land and soil resources, in relation to CSG and coal projects. Further, CSG wells are typically dewatered, with only 8% requiring hydraulic fracturing, in comparison to shale gas wells requiring 100% hydraulic fracturing and often involving multiple fractures per well. Therefore, the regulatory scope of the Water Trigger is arguably limited.¹⁶⁴

As examined in Section 3.2, each state and territory in Australia creates its UGR policy and enacts its corresponding regulation as each of the Acts defines petroleum as a natural occurring hydrocarbon or mixture of hydrocarbons (in a gaseous, liquid or solid state). Therefore, despite Australia the national petroleum policy, states and territories hold their own petroleum policies and *carte blanche* over their UGR resources and corresponding regulation.

The *Queensland Gas Supply and Demand Action Plan Discussion Paper* outlines the current UGR policy to maximise Queensland’s UGR potential and create a strong export market. The policy’s intent is to address and balance the needs of landholders, local communities and traditional owners while ensuring environmental safeguards are maintained.¹⁶⁵ The aspirational policy goals to be met by 2025 includes Queensland becoming a ‘best-practice leader in environmental and social performance, and an important contributor to local community wellbeing; highly attractive to domestic and foreign direct investment; typified by a high level of innovation and collaboration and actively exploring frontier/greenfield basis.’¹⁶⁶ Further, the vision for Queensland’s UGR sector is to ‘maximise its potential and be internationally competitive, balancing the needs of landholders, local communities and traditional owners while ensuring environmental safeguards are maintained’.¹⁶⁷ It is significant that the policy framework includes aspects of a principles-based regulatory framework mentioning ‘collaboration’, ‘community’ and ‘best practice leadership’.¹⁶⁸

¹⁶³ *Environmental Protection and Biodiversity Conservation Act 2004* (Cth) s 24D.

¹⁶⁴ Tina Hunter, above n 109, 392.

¹⁶⁵ Queensland Government, *Department of Natural Resources and Mines, Queensland Gas Supply and Demand Action Plan Discussion Paper* (November 2016) i.

¹⁶⁶ *Ibid.*, 10.

¹⁶⁷ *Ibid.*

¹⁶⁸ *Ibid.* Whether these aspirational policy goals have been met within the land use and land access regulatory frameworks in Queensland based on adaptive management is examined in the proceeding Chapters four and five.

As stated in Section 1.7, the application of hydraulic fracturing techniques dramatically increasing exploitation of shale gas basins in North America (and the associated price drop in UG in US and Canadian markets) and the growing resource demand of Asia has changed the economics of the British Columbian UG industry. The period from 1975 to 1984 marked the rapid development of PetroCanada under the Liberal Federal Government. The new federal oil company's objectives until 1979 were outlined in the Ministry of Energy, Mines and Resources document *An Energy Strategy for Canada: Policies for Self-Reliance* published on 1 January 1976. The 1976 policy stressed the need to stimulate domestic production to reduce dependence on foreign oil:

We must accelerate the search for new sources of energy and for new technologies for the production, distribution, conversion and utilization of energy. We must intensify our efforts to maintain control of our energy future, by minimizing our dependence on sources of supply that are not secure.¹⁶⁹

Canada is a natural resource nation, similar to Australia, and has seen the development of its petroleum policy as a significant UGR producer. The progressive discovery of oil in the first half of the twentieth century and the technical facility to extract conventional onshore oil led to the progressive growth of Canada's petroleum policy.

According to Doern and Toner, the period from the Leduc discovery in 1947 to the 1973 oil crisis is characterised by a 'reasonable consensus' between the federal government and resource-producing provinces over the management of the oil and gas reserves.¹⁷⁰ Energy was readily available and very cheap, barely rising above US\$2 per barrel throughout the period. Both levels of government encouraged production to stimulate growth in the domestic industry. The federal and provincial governments agreed on the construction of pipelines from the producing provinces to the consuming provinces, creating a favourable fiscal climate to attract investment and to develop exports.

The rise in international oil prices altered the structure of the Canadian energy market with a significant hike in oil import prices affecting the oil-importing provinces east of the Ottawa Valley. This altered the political landscape and produced political consensus surrounding the passage of the 1961 National Oil Policy in a legislative response designed to make Canada

¹⁶⁹ Canadian Ministry of Energy Mines and Resources, *An Energy Strategy for Canada: Policies for Self-Reliance* (Government of Canada, 1976) 149.

¹⁷⁰ Bruce Doern and Glen Toner, *The Politics of Energy: The Development and Implementation of the NEP* (Methuen, 1965) 67.

‘self-sufficient’ in oil and oil product-based products. As hydrocarbon resources in Canada are mostly geographically concentrated in Alberta and British Columbia, self-sufficiency implied some form of transfer from producing provinces to consuming provinces. This transfer was to take place with the creation of a single national market for Canadian oil, the extension of the pipeline network to Montreal, the establishment of a pricing mechanism to stimulate domestic production while distributing benefits among producing and consuming provinces and the creation a national oil company.¹⁷¹

British Columbia is Canada’s second leading natural gas-producing province, accounting for 24% of total production and 47% of Canada’s total natural gas reserves. British Columbia has much larger UGR reserves compared to Queensland, consisting mostly of shale gas, with an estimated 2,933 Tcf, primarily situated in the northeast region of the province in the Horn River Basin, the Montney, the Liard Basin and the Cordova Embayment.¹⁷² As of 2012, 1,400 shale gas wells produce over 2 billion cubic feet per day of gas in British Columbia.¹⁷³

British Columbia’s *Natural Gas Strategy* states the province aims to become a ‘global leader in secure and sustainable gas investment, development and export’.¹⁷⁴ The *Natural Gas Strategy* outlines the policy aims to achieve this vision by:

- maintaining current and developing new markets
- ensuring a reliable, abundant supply
- maintaining competitiveness
- maximising the benefits of natural gas development
- ensuring environmentally responsible development
- building partnerships to promote development.¹⁷⁵

As at November 2017, 17 LNG export projects have been proposed with all export licenses being approved by the National Energy Board and nine federal EAs have been completed

¹⁷¹ John Erik Fossum, *Oil, the State and Federalism: The Rise and Demise of PetroCanada as a Statist Impulse* (University of Toronto Press, 1997) 33.

¹⁷² Sibó Chen and Shane Gunster, “‘Ethereal Carbon’: legitimizing liquefied natural gas in British Columbia” (2016) 10(3) *Environmental Communication* 305, 306.

¹⁷³ Energy and Mines Ministers’ Conference, *Responsible Shale Development Knowledge Base* (2013) <https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/www/pdf/publications/emmc/Shale_Resources_e.pdf> 17.

¹⁷⁴ Government of British Columbia, *British Columbia’s Natural Gas Strategy* (2012) <http://www.gov.bc.ca/ener/popt/down/natural_gas_strategy.pdf> 1.

¹⁷⁵ Ibid.

with nine underway.¹⁷⁶ Clearly, Canada is gearing up for the lucrative export market and will emerge as a key competitor to Australia in this sector. The British Columbian Government has sought to create an attractive and internationally competitive investment climate by, for example, issuing C\$830 million in infrastructure royalty credits to oil and gas companies since 2004 while streamlining oil and gas legislation and regulation to enable faster development of projects.¹⁷⁷ This represents a strong LNG export policy focus for British Columbia to ‘promote the use of high efficiency natural gas electricity generation in export markets, and in specific markets in B.C., to meet the demand for capacity’.¹⁷⁸

While British Columbia does not hold the experience of commercial LNG production for export,¹⁷⁹ as all projects are yet to have overall approval, British Columbia’s LNG policy seeks to balance that of landholders as evident in its stringent environmental approvals process. Further, as a traditional resource extraction province, British Columbia’s UGR regulatory framework comes from a ‘mature’ resource state policy standpoint.

3.5.1 Controlled Development and Export of Unconventional Gas Resources

Two divergent energy policies exist in energy-importing and energy-exporting states. Firstly, a statist approach dictates a state takes active participation in its energy market and ‘steer’ markets to provide optimal energy outcomes for the benefit of the state.¹⁸⁰ The statist approach is based on the securitisation theory, where a policy must have ‘supreme policy priority’ where an ‘existential threat’ exists.¹⁸¹ A statist approach emphasises state control of resources and regulation and favours a major role by the government in sponsoring energy-related activity, such as support for specific energy sources and direct participation in the

¹⁷⁶ The proposed LNG projects are: the Canada Stewart Energy Project; Cedar LNG Discovery; LNG Grassy Point LNG; Kitimat LNG; Kitsault Energy Project; LNG Canada; NewTimes Energy Ltd.; Nisga'a LNG; Orca LNG; Steelhead LNG; Malahat LNG; Steelhead LNG; Sarita LNG; Triton LNG Watson Island LNG; WCC LNG Ltd; WesPac; and Woodfibre LNG.

¹⁷⁷ Kathryn H. Garvie and Karena Shaw, ‘Shale gas development and community response: perspectives from Treaty 8 territory, British Columbia’ (2016) 21(8) *The International Journal of Justice and Sustainability* 1009, 1012.

¹⁷⁸ British Columbia Ministry of Energy and Mines, *Natural Gas Strategy: Fuelling B.C.’s Economy for the Next Decade and Beyond* (2012) <http://www.gov.bc.ca/ener/popt/down/natural_gas_strategy.pdf> 16.

¹⁷⁹ Historically, British Columbia’s natural gas has been exported throughout North America.

¹⁸⁰ Andrew Phillips, ‘A Dangerous Synergy: Energy Securitization, Great Power Rivalry and Strategic Stability in the Asian Century’ (2013) 26(1) *The Pacific Review* 17, 38.

¹⁸¹ Barry Buzan, Ole Wæver, and Jaap de Wilde, *Security: A New Framework for Analysis*. (Lynne Rienner Publishers, 1998).

upstream sectors of producer states. This policy setting requires treatment and intervention by extraordinary means.¹⁸²

3.5.2 Australia

Although Australia is rich in energy resources, Schott and Campbell find it surprising that its energy policy documents do not address diversion of energy to export markets or demand security as a threat to Australia's overall economic future.¹⁸³ Australian energy policy documents raise no concerns about energy security in markets that are not open, transparent and do not have clear and competitive price signals, without which energy trade is dictated by geopolitical processes.¹⁸⁴ Australia's complacency about energy security appears inconsistent with other regional and international views. A bipartisan 'hands-off' approach and general public complacency regarding Australia's energy future may not serve the national interest in the long run.

A market-based policy approach seeks to mitigate the risks of potential market supply disruption by promoting efficiency of domestic markets without intervention. According to proponents of this approach, energy is another commodity conceived on equal footing to all other traded commodities. Consequently, energy markets are then exposed to the same conditions as other commodity markets as private petroleum companies will deliver energy at the best price and ensure adequate and reliable supplies so that government intervention is minimal, unless market failure is presented. Efficient markets are attained by removing taxes, royalties, subsidies and maintaining transparent trading rules and regulations.¹⁸⁵

Energy exporters, such as the member states of the Organisation of Petroleum Exporting Countries, including Norway¹⁸⁶ and Russia,¹⁸⁷ have generally adopted statist policies, while energy importers, particularly members of the International Energy Agency (IEA), such as the US, have adopted market-based policies. Australia has adopted a wholly free market or liberal energy policy based on limited government interference in energy policy. The underlying

¹⁸² Ibid.

¹⁸³ Stephan Schott and Graham Campbell, 'National Energy Strategies of Major Industrialized Countries' in: Hugh Dyer and Maria Julia Trombetta, M.J. eds. *International Handbook of Energy Security* (Edward Elgar, 2013) 174.

¹⁸⁴ Department of the Prime Minister and Cabinet (Cth), *Energy White Paper Securing Australia's Energy Future* (Commonwealth of Australia, 2004) <<http://www.efa.com.au/Library/CthEnergyWhitePaper.pdf>>.

¹⁸⁵ Vlado Vivoda, 'State-Market Interaction in Hydrocarbon Sector: The Cases of Australia and Japan' (2015) 240-266 in Andrei Belyi and Kim Talus, *States and Markets in Hydrocarbon Sectors* (Palgrave Macmillan, 2015).

¹⁸⁶ OECD, *Energy Policies of IEA Countries: Norway* (OECD, 2011).

¹⁸⁷ Pami Aalto, *Russia's Energy Policies: National, Interregional and Global Levels* (Edward Elgar, 2012).

assumption is that free markets and private oil and gas companies will best serve Australia's interests in providing optimal market outcomes in terms of both price and balancing supply and demand.

This is evident in Australia's first *Energy White Paper* in 2004, released by the Howard Government, which acknowledged the decline of Australia's liquid fuel balance and, rather than raising energy as an issue of security, argued for the export of surpluses in all other energy categories including UGR, uranium and coal.¹⁸⁸ The policy implication of the 2004 White Paper solidified Australia's place as a net energy exporter and the policy objective to increase energy liberalisation in Australia's national interest.¹⁸⁹ The latest *Energy White Paper*, released in 2015, reiterates its predecessor consolidating the market-led energy policy for Australia:

Our guiding principle is that markets should be left to operate freely, without unnecessary government intervention. Competition, productivity and investment will deliver reliable and cost competitive energy to households and business.¹⁹⁰

Further, the broad National Gas Objective of the Australian Energy Market Commission is to 'promote efficient investment in, and efficient operation and use of, natural gas services for the long-term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas'.¹⁹¹

However, the release of the Finkel Report in early 2017 raised political concerns about the adequacy of current domestic energy supply in Australia. This is supported by the recent findings of the Australian Competition and Consumer Commission (ACCC)¹⁹² and Australian Energy Market Operator (AEMO)¹⁹³ questioning the Turnbull government's 'hands-off'

¹⁸⁸ Energy Task Force, *Securing Australia's Energy Future* (2004) <<http://www.efa.com.au/Library/CthEnergyWhitePaper.pdf>>.

¹⁸⁹ Richard Leaver, 'Australia's Role in Feeding Asia's Energy Demand' in Christopher Len and Alvin Chew (eds), *Energy and Security Cooperation in Asia: Challenges and Prospects* (Institute for Security and Development Policy, 2009) 121, 200.

¹⁹⁰ Department of Industry, Innovation and Science (Cth), *Energy White Paper* (Commonwealth of Australia, April 2015) <<https://industry.gov.au/EnergyWhitePaperApril2015/index.html>>2.

¹⁹¹ Australian Energy Market Commission, *Stage 2 Final Report East Coast Wholesale Gas Markets and Pipeline Framework Review* (2016) <<http://www.aemc.gov.au/Markets-Reviews-Advice/East-Coast-Wholesale-Gas-Market-and-Pipeline-Framework/Stage-2-Final-Report/AEMC-documents/Stage-2-Final-Report.aspx>>.

¹⁹² ACCC, *Gas Inquiry September 2017 Interim Report* (2017) <<https://www.accc.gov.au/publications/serial-publications/gas-inquiry-2017-2020/gas-inquiry-september-2017-interim-report>>.

¹⁹³ Australian Energy Market Operator, 'National Gas Forecasting Report for Eastern and South-Eastern Australia' (8 December 2016) <https://www.aemo.com.au/-/media/Files/Gas/National_Planning_and_Forecasting/NGFR/2016/2016-National-Gas-Forecasting-Report-NGFR-Final.pdf>.

approach to energy security. The reports highlights the concern about projected shortfalls in domestic energy supply which has created an environment of uncertainty and confusion for some Australian states¹⁹⁴ with the most expensive electricity prices in the world being 47.13 cents per kilowatt hour in South Australia.¹⁹⁵

In January 2015, Queensland began exporting UGR and LNG to Asian markets, representing development of UGR for export rather than to serve the domestic market. In 2016, 5,127 UGR wells were reported as producing CSG and total LNG production for 2015–2016 was 92.63 ML (49,265 tonnes).¹⁹⁶ Most of Queensland's UGR is currently produced from the Fairview and Spring Gully areas in the Bowen Basin, where development has been concentrated on coal seams at around 300 metres depth, and the Walloon Coal Measures in the Surat Basin, where CSG is typically obtained from coal seams located at depths between 300 and 600 metres.

The three LNG export port facilities in Queensland have brought 'increased uncertainty and complexity',¹⁹⁷ to the East Coast domestic electricity market.¹⁹⁸ The volatility of the UGR sector, according to the ACCC, is based on the following:

- export contracts have favoured the export market based on longer term contract and historically high LNG prices \$10–16 per gigajoule
- commercial and industrial users are unable to access reasonably priced LNG
- the expression of interest or auction processes are unprecedented in wholes gas supply where users need to bid their prices and later find out if they have been shortlisted
- limited supply of gas to the domestic market due to long-term export contracts has created unfavourable negotiating conditions
- capacity and storage for domestic gas supplies is severely limited as export supplies take precedence.¹⁹⁹

¹⁹⁴ WA is the only jurisdiction that has a domestic reservation policy. LNG producers in WA are obliged to make available domestic gas equivalent to 15 per cent of LNG production from each LNG export project.

¹⁹⁵ ACCC, *Gas Inquiry September 2017 Interim Report* (2017) <<https://www.accc.gov.au/publications/serial-publications/gas-inquiry-2017-2020/gas-inquiry-september-2017-interim-report>>.

¹⁹⁶ Department of Natural Resources and Mines, *Queensland's Petroleum and Coal Seam Gas* (2015-2016) <https://www.dnrm.qld.gov.au/_data/assets/pdf_file/0008/1237742/qld-petroleum-coal-seam-gas-2017.pdf>.

¹⁹⁷ ACCC, above n 190, 14.

¹⁹⁸ ACCC, above n 190, 29-36.

¹⁹⁹ ACCC, above n 190, 14.

The LNG market has become ‘heated’ and the high prices that LNG producers can demand for export has significantly affected the domestic supply of LNG in Australia. An example of this is described by the ACCC:

One of the LNG projects is currently planning to export a volume of LNG above the minimum requirements for 2018 under its long-term export contracts. The volume in excess of the minimum contractual export commitments could have been used to supply additional gas into the domestic market.²⁰⁰

The laissez faire approach taken by the Queensland government has created a forecast production supply of 224 petajoules per annum in 2018, down from 330 petajoules per annum produced in 2017. The AEMO predicted a UGR shortfall in domestic supply of up to 107 petajoules in 2018 and 102 petajoules in 2019, creating increased gas prices in the Eastern gas states of Australia.²⁰¹ Government non-intervention in the LNG supply side, coupled with the Finkel Inquiry proposal to increase domestic LNG production to create greater domestic energy security, has led the federal government to pressure state governments to lift state moratoriums on gas exploration in Victoria, New South Wales and Northern Territory.

A period of mergers and acquisitions and investment of large oil and gas companies resulted in four major LNG production operations in Queensland and three major consortia—Gladstone LNG project (GLNG) (Santos (operator, 30%), Petronas (27.5%), Kogas (15%) and Total (27.5%)); Australia Pacific LNG (APLNG) (Origin (upstream operator, 37.5%), Conoco-Phillips (37.5%) and Sinopec (25%)); Queensland Curtis LNG (QCLNG) (Queensland Gas Company (QGC) operator (a BG subsidiary, recently purchase by Shell) with minor stakes in QCLNG owned by CNOOC and Tokyo Gas); and Arrow Energy (owned 50:50 by Shell and PetroChina).²⁰² The opportunity to develop a CSG–LNG industry for export led the three consortia and Arrow Energy to undertake ‘rapid expansion of production’ to service international energy markets the scale of which was ‘unprecedented in Australia’.²⁰³

²⁰⁰ ACCC, *ibid*, 11.

²⁰¹ AEMO, *National Gas Forecasting Report for Eastern and South-Eastern Australia* (2016) <https://www.aemo.com.au/-/media/Files/Gas/National_Planning_and_Forecasting/NGFR/2016/2016-National-Gas-Forecasting-Report-NGFR-Final.pdf>.

²⁰² Brian Towler, Mahshid Firouzi, James Underschultz, Will Rifkin, Andrew Garnett, Helen Schultz, Joan Esterle, Stephen Tyson and Katherine Witt, ‘An Overview of the Coal Seam Gas Developments in Queensland’ (2016) 31 *Journal of Natural Gas Science and Engineering* 249, 256.

²⁰³ Towler, et.al., *ibid*, 264.

This led to a policy and regulatory approach of the Queensland government as a rule-based adaptive management framework for addressing the cumulative impacts of the UGR industry including:

- The creation of the Office of Groundwater Impact Assessment²⁰⁴ advising the Queensland government on the nature and extent of UGR impact on groundwater systems and the creation of ‘make good agreements’ between the landholder and the company regarding how the impact on the landholder’s water bore is to be addressed through either monetary compensation, deepening of water bores into other aquifers, drilling a new water bore or providing alternative access to water.
- The CSG Compliance Unit aimed to provide a ‘one stop monitoring and enforcement service’²⁰⁵ by placing government staff in Gasfields regions to address public inquiries and concerns.
- The GC²⁰⁶ to facilitate landholder engagement and provide recommendations to government departments and Ministers on the implementation of land access laws.
- The Land Access Framework (LAF), consisting of the LAC,²⁰⁷ to suggest how oil and gas companies communicate and negotiate with landholders in creating land access agreements.

The four key regulatory and policy measures aimed at developing the rapid expansion of the LNG export industry in Queensland have created unparalleled effects on land use and land access,²⁰⁸ examined in Chapters 4 and 5 of this thesis.

As discussed in Sections 2.9.3 and 3.5, the additional Water Trigger regulations were implemented by the EPBCA.²⁰⁹ The Water Trigger prohibits a CSG or large coal mining development from taking an action which results, will result or is likely to result in a significant impact on a water resource.²¹⁰ The Water Trigger regulation does not have a retroactive effect which could be applicable to already approved projects at the time of enactment. However, the Arrow Energy LNG–CSG project did require additional

²⁰⁴ *Water Act 2000* (Qld) Ch 3A s 445.

²⁰⁵ Queensland Government, Department of Natural Resources and Mines, *Annual Compliance Plan for Queensland’s Mineral and Energy Resources 2017-18* (2017).

²⁰⁶ *Gasfields Commission Act 2016* (Qld).

²⁰⁷ Queensland Government, Department of Natural Resources and Mines, *Land Access Code* (2016).

²⁰⁸ Jo Anne Everingham, Nina Collins, Jim Cavaye, Will Rifkin, Sue Vink, Thomas Baumgartl and Daniel Rodriguez, ‘Energy from the Foodbowl: Associated Land-Use Conflicts, Risks and Wicked Problems’ (2016) 154 *Landscape and Urban Planning* 68.

²⁰⁹ *Environment Protection and Biodiversity Conservation Amendment Act 2013* (Cth) s 24D.

²¹⁰ *Environmental Protection and Biodiversity Conservation Act 2004* (Cth) s 24E.

Commonwealth EPBCA approval under the Water Trigger as the project was pending approval at the time of the Water Trigger enactment. The additional Water Trigger approval created a one year project delay and altered the project scope significantly.²¹¹

Morrow notes the irony of Australia's domestic energy shortfall, given the country's huge gas reserves.²¹² The higher price of LNG set by export markets will flow into higher domestic prices and this has led to a deterioration of public support for UGR. Australia is a high cost producer and as Asian prices fluctuated downwards projects slowed down—reducing availability of natural gas for domestic markets even before the companies were able to begin actual LNG export. Morrow observes that if the government wishes to develop UGRs, it will need to identify the risks, regulate them well and communicate with the public. Australia has become a cautionary tale to many policymakers in Canada. As stated by Sabonis-Helf, 'the idea that entering the world market may imperil the domestic market is a strong message'.²¹³

In July 2017, the Australian Government implemented the Australian Domestic Gas Security Mechanism (ADGSM).²¹⁴ The ADGSM allows for the control of LNG exports in the event of a significant domestic gas supply shortfall. The ADGSM is designed to ensure a sufficient supply of gas to meet the needs of Australian consumers by requiring, if necessary, LNG projects to divert supplies to the domestic market, to limit exports or find offsetting sources of new gas. As of September 2017, this broad policy recommendation (which does not quantify 'sufficient supply') has not been enacted by the federal government.

Delivered in 2017, the Finkel Review confirms the place of UGR policy in Australia as a 'transition fuel' to ensure the National Energy Market's reliability and security in a gas-fired generation. However, the current policy conditions of high gas prices in Australia and tight supply are attributable to the majority of UGR being contracted for export and, therefore, unavailable for the domestic market. Therefore, the review echoes the UGR sector's calls for state governments to adopt evidence-based regulatory regimes to manage UGR project risks, rather than introduction regulatory moratorium.

²¹¹ Queensland Government, Department of State Development, *Assessments and Approvals, Arrow LNG Plant* (2016) <<http://www.statedevelopment.qld.gov.au/assessments-and-approvals/arrow-lng-plant.html>>.

²¹² Holly Morrow, *Unconventional Gas Lessons Learned from Around the World* (Harvard, 2014).

²¹³ Theresa Sabonis-Helf, 'Unconventional Shale Energy and the Strategies of Nations' in Yongsheng Wang and William E Hefley (eds), *The Global Impact of Unconventional Shale Gas Development* (Springer, 2016) 15,30.

²¹⁴ Div 6 of the Customs (Prohibited Exports) Regulations 1958 (Cth), which have been amended by the Customs (Prohibited Exports) Amendment (Liquefied Natural Gas) Regulations 2017 (Cth).

3.5.3 Canada

In 2011, federal, provincial and territorial energy ministers endorsed a collaborative approach to guide action on shared priorities on energy through the Energy and Mines Ministers' Conference. The collaborative approach provided a shared vision that 'Canada is a recognized global leader in secure and sustainable energy supply, use, and innovation'.²¹⁵ The vision was supported by a preliminary series of common principles to guide action on shared priorities to:

Acknowledge the need for an adequate and reliable supply of energy Recognize the importance of socially and environmentally responsible development, transportation and use of energy Pursue a market-oriented approach to energy policies governed by effective, efficient and transparent regulatory systems Recognize that federal, provincial and territorial cooperation is essential while respecting distinct constitutional jurisdictions and government authorities.²¹⁶

The *Pan-Canadian Framework on Clean Growth and Climate Change*, released in 2016 and endorsed by all Canadian provinces, is founded upon a number of principles including collaboration and transparency; climate change, social and environmental responsibility; and energy security and sustainability.²¹⁷ The *Pan-Canadian Framework* acknowledges the pivotal role of British Columbia's UG within its energy strategy:

B.C. has an abundance of natural gas, which is a lower carbon fuel that will play a critical role in transitioning the world economy off of high carbon fuels such as coal. B.C. is developing the resource responsibly, and provincial legislation will make the emerging LNG sector the cleanest in the world. B.C. is also electrifying upstream development of natural gas and will require a 45% reduction in methane emissions by 2025.²¹⁸

Canada also holds a market-orientated approach to regulate supply, demand, prices and trade in its energy system. However, some Canadian provinces, such as British Columbia, have created state-based intervention policies through the Crown Corporations.

²¹⁵ Canadian Energy Research Institute, above n 144.

²¹⁶ Energy and Mines Ministers' Conference, *Canada as a Global Energy Leader Toward Greater Pan-Canadian Collaboration: A Progress Report* (2012)
<https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/energy/files/pdf/EN_Energy%20Progress%20Report.pdf>2.

²¹⁷ Government of Canada, *Pan-Canadian Framework on Clean Growth and Climate Change Canada's Plan to Address Climate Change and Grow the Economy* (2016)
<<https://www.canada.ca/content/dam/themes/environment/documents/weather1/20170113-1-en.pdf>> 49.

²¹⁸ Government of Canada, *ibid*, 51.

Canada produces 16.2 billion cubic feet of UGR per day, with 7.9 billion cubic feet exported (primarily to the US) and 8.3 billion cubic feet consumed domestically.²¹⁹ British Columbia's Natural Gas Strategy is based on the aim of creating a secure and sustainable natural gas sector for domestic development and export. The following policy principles are laid down by the policy to ensure British Columbia maintains current and future development of new UGR markets; ensures a reliable, abundant supply; maintains competitiveness; maximises the benefits of natural gas development; ensures environmentally responsible development; and build partnerships to promote development.²²⁰

Stakeholder interests, including First Nations, 'community engagement' and 'the shares values of Canadians' is evident in the Canadian Energy Policy and British Columbia's UGR policy.²²¹ Collaboration at a federal and municipal level is also found in the New West Partnership established in 2010, encompassing British Columbia, Alberta and Saskatchewan, creating Canada's largest interprovincial barrier-free trade and investment market. An energy Memorandum of Understanding (MOU) was signed by the three provinces in 2010, establishing a collaborative framework to strengthen and expand the region's energy sectors.²²²

British Columbia has arguably more effectively observed and applied the IEA *Golden Rules for a Golden Age of Gas* which suggests policy principles allowing regulators and operators to address environmental and social aspects of UGR.²²³ In particular, integration and engagement with local communities, residents and other stakeholders 'into each phase of a development starting before exploration; provide sufficient opportunity for comment on plans, operations and performance; listen to concerns and respond appropriately and promptly'.²²⁴ These policy objectives have been woven into the creation of the OGC in British Columbia, representing a greater role for the state in managing energy policy on behalf of the citizens of British Columbia.

²¹⁹ Canadian Association of Petroleum Producers, *Basic Statistics* (2017) < <http://www.capp.ca/publications-and-statistics/statistics/basic-statistics>>.

²²⁰ British Columbia Ministry of Energy and Mines, *Natural Gas Strategy: Fuelling B.C.'s Economy for the Next Decade and Beyond* (2012) <http://www.gov.bc.ca/ener/popt/down/natural_gas_strategy.pdf> 3.

²²¹ Canada's Premiers, *Canadian Energy Strategy* (2015).

²²² British Columbia Ministry of Energy and Mines, above n 218, 14.

²²³ International Energy Agency, *Golden Rules for a Golden Age of Gas. World Energy Outlook Special Report on Gas* (2012) <http://www.iea.org/publications/freepublications/publication/WEO_2012_Special_Report_Golden_Rules_for_a_Golden_Age_of_Gas.pdf>.

²²⁴ International Energy Agency, *ibid*, 9.

3.6 Comparative Historical Context of Australian and Canadian Agricultural Policy

3.6.1 State Intervention

The push to increase agricultural production has driven structural changes in Australian agriculture with resulting impacts on production regimes, access to markets and the nature of farming to create a highly diverse sector. Australian agriculture has undergone a radical transformation that has seen protectionist agrarian policies disappear from the Australian policy landscape.²²⁵ Commodity oversupply based on a fixed base price system for farmers, including in 1990–1991, led to the subsequent collapse of Australia’s competitiveness in the world wool market and hastened the pace of deregulation in Australia.²²⁶ The deregulation of Australian agricultural industry commenced in 1985, including the complete deregulation of dairy in 2000, one of Australia’s most recognisable agricultural commodities.²²⁷ Contemporary Australian agriculture is among the most deregulated in the world.

The landscape of Australian agriculture during the second half of the twentieth century has largely been dominated by the policies to increase the nation’s competitive advantage on the world stage.²²⁸ The policy language reflects the objectives of efficiency, competitiveness and market-led supply and demand. Many of the processes and programs associated with the reforms to achieve these policy goals were developed and driven from within Treasury and the PC, rather than the ‘rural heartlands’ of farming and farmers.²²⁹ This is an important point, as it cuts to the very nature of how farming and rural production systems are understood in the Australian legislative context.

Two government advisory boards advise the Australian Department of Agriculture and Water Resources, the Australian Bureau of Agricultural and Resource Economics and Scientists (ABARES) and the PC within the Treasury Ministry. Their mandate is to review and make recommendations for government assistance for industry. The PC hearings and reports receive

²²⁵ Helen Louise Berry, Linda Courtenay Botterill, Geoff Cockfield and Ning Ding, ‘Identifying and measuring agrarian sentiment in regional Australia’ (2016) 33 *Agriculture and Human Values* 1.

²²⁶ Wool Policy Group, *The Wool Debt, the Wool Stockpile and the National Interest: Submission to Wool Industry Review Committee* (School of Agriculture, La Trobe University, 1993).

²²⁷ *Food Production (Safety) Act 2000* (Qld). Queensland is the only Australian state/territory to not have a dedicated state dairy agency regulating dairy production. Rather, dairy is regulated by Food Safe Queensland.

²²⁸ Graeme Davison, *Struggle Country: The Rural Ideal in Twentieth Century Australia* (Monash University ePress, 2005).

²²⁹ Erin Smith and Bill Pritchard, ‘Australian Agricultural Policy: The Pursuit of Agricultural Efficiency’ in Anthony Hogan, Michelle Young (eds), *Rural and Regional Futures* (Routledge, 2015) 58, 60.

program funding for fixed terms to review agricultural policy to ensure ‘national agricultural policy remains open to external scrutiny’.²³⁰ PC reports have been instrumental in structuring the negotiations surrounding the deregulation of wheat and dairy in Australia while taking into account the relevant private sector interests.

ABARES has also had a direct and continuous impact in advocating ‘the dismantling of federal government price and income stabilisation policies since the 1970’s by providing economic information on specific sector production’.²³¹ Significantly, the PC, ABARES and the creation of the NFF extended to the creation of the NFF document, *Farm Focus: The 1980’s*,²³² which advocated reducing assistance to agricultural and non-agricultural sectors, ending agricultural protectionism and liberalising trade.²³³

After Canada’s Confederation, legislative measures to develop agriculture and assist producers became a permanent fixture on the Canadian legal landscape, both at the federal and provincial levels. The federal and provincial governments have been very active in promoting agriculture through the development of rural areas,²³⁴ agricultural research stations,²³⁵ technical assistance to farmers and regulatory mechanisms to control livestock diseases²³⁶ to encourage organisations that promote and professionalise the practice of agriculture.²³⁷

Canadian agriculture law has been significantly transformed based on federal and provincial regulations with the objectives of 1) encouraging agriculture and assisting those involved in agricultural production, 2) promoting fair trade in agricultural products, and 3) ensuring agricultural product and food safety and quality.²³⁸ In comparison to Australia, the Canadian Government consistently operates with higher financial assistance, market protection and supply chain management systems in its prime agricultural sectors.²³⁹ Since the late 1960s, in Australia, agricultural protectionism has been replaced by reducing financial and regulatory

²³⁰ Will Martin, ‘Rural Policy’ in Christine Jennett and Randal Stewart (eds), *Hawke and Australian Public Policy* (Macmillan, 1990) 157.

²³¹ William Coleman, *Business and Politics: A Study of Collective Action* (Queen’s University Press, 1988) 20.

²³² National Farmers’ Federation, *Farm Focus: The 80’s* (National Farmer’s Federation, 1980).

²³³ Brian W. Head and Allan Patience (eds.), *From Fraser to Hawke*, (Longman Cheshire, 1989) 147.

²³⁴ *Agricultural and Rural Development Act*, RSC 1985, c 3; *Agriculture Development Act*, RSY 2002, c 4.

²³⁵ *Agricultural Research Institute of Ontario Act*, RSO 1990, c 13.

²³⁶ *Livestock Act*, RSBC 1996, c 2670.

²³⁷ There are a variety of legislative initiatives that seek to promote the history, science and practice of agriculture across Canada. See, for example: *Farmers and Women’s Institutes Act*, RSBC 1996, c 133.

²³⁸ Donald Buckingham, *Halsbury’s Laws of Canada* (Lexis Nexis, 2014).

²³⁹ Such as Dairy, Poultry and Egg Farmers. See Khamla Heminthavong, *Canada’s Supply Management System* (Agricultural Price Supports, 2015).

support for agriculture. In Australia, subsidy support across the agricultural sector is 3%, compared to 15% in Canada.

The *Constitution Act, 1867*²⁴⁰ provides the Parliament of Canada and the legislature of each province and territory the power to ‘make Laws in relation to Agriculture’.²⁴¹ An example of this is the dairy sector in Canada. In this commodity sector, the Canadian Government almost exclusively manages its domestic market and a set of regulatory instruments fix prices and quotas for dairy farmers based on the cost of production and that of controlled supply governing domestic milk and milk products.²⁴² Comprehensive import controls have ensured a highly protected supply management chain.²⁴³ Similarly, the Australian dairy sector, until 1999, operated under a two-price regulator scheme with domestic prices set higher than export returns to protect dairy producers from market entry of lower-priced and unsubsidised New Zealand dairy products under the Closer Economic Relations Agreements.²⁴⁴

Since 2000, the Australian dairy industry has been deregulated via the *Dairy Structural Adjustment Program* (1999)²⁴⁵ and all states repealed legislation governing sourcing and pricing of drinking milk and the state milk authorities, which administered these controls, were wound up from 1 July 2000. With few exceptions, Australian agriculture now operates in a largely deregulated market with farmers acting as independent participants in a competitive marketplace requiring farmers to manage their supply chains.²⁴⁶ The implementation of Australia’s National Competition Policy from 1992–1995 drastically reduced produce and commodity marketing boards as a service and market support for farmers.²⁴⁷

²⁴⁰ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3, s 96.

²⁴¹ *Constitution Act 1867* (IMP), 30 & 31 Vict, c 3, s 95.

²⁴² Dairy Australia, *Trade and the Australian Dairy Industry* (2014) <<http://www.dairyaustralia.com.au/~media/Documents/Stats%20and%20markets/Exports%20and%20trade/Trade%20and%20Dairy%20Screen.pdf>>.

²⁴³ Bruce Muirhead and Hugh Campbell, ‘The Worlds of Dairy: Comparing Dairy Frameworks in Canada and New Zealand in Light of Future Shocks to Food Systems’, in Reidar Almås, Hugh Campbell (eds) *Rethinking Agricultural Policy Regimes: Food Security, Climate Change and the Future Resilience of Global Agriculture (Research in Rural Sociology and Development, Volume 18)* (Emerald Group Publishing Limited, 2012) 147.

²⁴⁴ Canadian Dairy Commission, *History of the CDC* (2016) <<http://www.cdc-ccl.gc.ca/CDC/index-eng.php?id=3798>>.

²⁴⁵ *Dairy Structural Adjustment Program Scheme Amendment 2000* (No. 1) (Repealed).

²⁴⁶ William van Caenegem, Madeline Taylor, Jen Cleary and Brenda Marshall (2015) *Collective Bargaining in the Agricultural Sector*, RIRDC <<https://rirdc.infoservices.com.au/items/15-055>>.

²⁴⁷ National Competition Council, *Compendium of National Competition Policy Agreements* (2nd edition, 1998) <<http://ncp.ncc.gov.au/docs/PIAg-001.pdf>>.

In contrast, the Canadian Government regulates dairy production via the Canadian Milk Supply Management Committee created in 1966 under the *Canadian Dairy Commission Act*²⁴⁸ and chaired by a federal Crown Corporation. The Canadian Dairy Commission is responsible for dairy policy and has representatives from provincial marketing boards and provincial governments.²⁴⁹ Canada's Crown Corporation the Canadian Dairy Commission, external to the Canadian Department of Agriculture, has been responsible for implementing key features of national dairy policy and advising the minister of agriculture on key dairy regulations.²⁵⁰ The Canadian Dairy Commission remains a strong advocate of supply management and takes a defensive stance to policy change. With the Canadian Dairy Commission as the central policy player of Canadian Dairy, protectionist regulation favouring managed adjustment to change remains embedded at the core of the Canadian Policy Network.²⁵¹

Therefore, the Canadian Dairy Commission has constructed a system that encompasses both industrial and fluid milk producers that is vertically integrated across provincial divisions.²⁵² Another contrast is seen in Canadian agricultural export trade policy, where provincial governments demand and have received a right to be consulted in international trade negotiations.²⁵³ Therefore, provincial governments can exercise their regulatory authority over intra-provincial marketing and dairy production.

3.6.2 Agricultural Land Protection

In Queensland, the recent repeal of the SCL Act and introduction of the RPIA and the RIDA regime are direct results of increasing regulatory concerns to protect and sustain agricultural activities during and after UG activities have taken place on private agricultural land. The RPIA provides a single integrated legislative framework that captures existing policies including strategic cropping land policies. This legislation is intended to protect and preserve the most valuable agricultural land and manage impacts of development on that land.

²⁴⁸ RSC 1982, c 15.

²⁴⁹ William Coleman and Grace Skogstad, 'Neo-liberalism, policy networks, and policy change: Agricultural policy reform in Australia and Canada' (1995) 30 (2) *Journal of Political Science* 242.

²⁵⁰ Dairy Processors Association of Canada, *Regulatory Framework* (2015) <<http://www.dpac-atlc.ca/framework.php>>.

²⁵¹ *Canadian Dairy Commission Act*, RSC 1985, c 15.

²⁵² James D. Forbes, *Institutions and Influence Groups in Canadian Farm and Food Policy* (Institute of Public Administration, 1985) 34.

²⁵³ Grace Skogstad, 'The State, Organized Interests and Canadian Agricultural Trade Policy: The Impact of Institutions' (1992) 25(2) *Canadian Journal of Political Science* 319, 327.

In relation to competing land uses, the debate has centred on PAAs—land that is particularly suited to the state’s agriculture industry, whether for food or fibre production. The Queensland Legislature implemented the RPIA to manage, among other things, ‘the impact of resource activities and other regulated activities on areas of regional interest; and the coexistence, in areas of regional interest, of resource activities and other regulated activities with other activities, including, for example, highly productive agricultural activities’.²⁵⁴

Agricultural areas are defined as one or more areas used for a priority agricultural use, whether it also includes other areas or features, including, for example, a regionally significant water source, and is either i) shown on a map in a regional plan as a PAA or ii) prescribed under a regulation.²⁵⁵

Additionally, a priority agricultural land use is defined as ‘highly productive agriculture of a type identified in a regional plan for an area of regional interests; or of a type prescribed under a regulation for an area of regional interest’.²⁵⁶ However, non-agricultural uses are not defined or considered in the RPIA. Rather, agricultural land uses are simply defined as ‘highly productive agricultural areas, or agricultural land uses with significant infrastructure investment or agricultural land uses that have the potential to be significantly impacted by resource activities and have limited scope to modify their agricultural practices in response to these impacts’.²⁵⁷ The broad purpose of the RPIA is to protect PAAs, PLAs, SCAs and strategic environmental areas, each of which are classified as ‘areas of regional interest’.²⁵⁸

As stated by Williams, Milligan and Stubbs, ‘It is a defensible proposition that the only development activities that should be acceptable in a region are those that allow the landscape to maintain its function indefinitely. It would be folly to secure one natural resource while putting at risk renewable long-term resource use’.²⁵⁹ The broader question of these competing land uses is the balance between energy and commodity security.²⁶⁰ It is the role of the law to

²⁵⁴ *Regional Planning Interests Act 2014* (Qld) s 3(1)(c).

²⁵⁵ *Regional Planning Interests Act 2014* (Qld) s 8(1).

²⁵⁶ *Regional Planning Interests Regulation 2014* (Qld) pt 2; *Regional Planning Interests Act 2014* (Qld) s 8(2).

²⁵⁷ Department of Infrastructure, *Local Government and Planning, RPIA Guideline 07/14* (2015) <<http://www.dilgp.qld.gov.au/resources/guideline/rpi-guideline-07-14-how-to-identify-priority-agricultural-land-use.pdf>>.

²⁵⁸ *Regional Planning Interests Act 2014* (Qld), s 4.

²⁵⁹ John Williams, Ann Milligan and Tim Stubbs, ‘Whole of Landscape Assessment and Planning in the Management of Unconventional Gas Exploration and Production in Australia’ in R. Quentin Grafton, Ian G. Cronshaw, Michal C. Moore (eds), *Risks, Rewards and Regulation of Unconventional Gas: A Global Perspective* (Cambridge University Press, 2016) 427, 427.

²⁶⁰ David D. Songstad, Jerry L. Hatfield and Dwight T. Tomes, *Convergence of Food Security, Energy Security and Sustainable Agriculture* (Springer, 2014).

attempt to balance and protect the interests of both the agricultural and UG industries. Agricultural landholders are understandably reluctant to allow their prime agricultural land to be used for UGR extraction. However, even if a farmer owns the fee simple land, in both Australia and Canada a government (federal, state or provincial) has the right to grant a license to petroleum titleholders to drill wells to extract UG. This tension between the interests of the landholder and titleholder is subject to critical analysis in Chapters 4 and 5.

Land use legislation in Canada, similar to Australia, assigns roles to provincial ministries and municipal governments in the creation, implementation and monitoring of compliance with official plans or development plans. The approach taken by most provinces to regulating land use is to enact specific land use regulations for both rural and urban land planning legislation.²⁶¹ The general framework for planning legislation is the promulgation of an official community development plan at the regional or local level set out in legislation.²⁶² While the detailed development of these plans is usually the concern of regional or local municipalities, the provincial government function is to ensure that municipalities plan and plan properly.²⁶³

Agricultural land protection in British Columbia operates as a form of provincial-level zoning that takes priority over local land use regulations by creating comprehensive land use regulations to protect their agricultural land base. The provincial ALR comprises land that was zoned for agricultural purposes by the relevant local government authority as at the establishment of the reserve in 1973, plus additions and minus removals approved since then by the Agricultural Land Commission (ALC). In general, land in the reserve may not be subdivided or used for a non-farm use without the approval of the ALC. Local governments must ensure that their by-laws are consistent with the Act, and regulations and orders made under the ALCA.²⁶⁴

British Columbia's pioneering province-wide implementation of the ALR is one of the earliest international examples of a legislated agricultural land use protection framework. The ALR currently includes 4.7 million hectares of land, for which subdivision and non-agricultural uses are severely restricted. According to the Census of Agriculture for British

²⁶¹ *Local Government Act*, RSBC, 1996, c 323.

²⁶² *Planning Act*, CCSM 2005, c 80, s 1(1).

²⁶³ Carys Jones, Mark Baker, Jeremy Carter, Stephen Jay, Michael Short and Christopher Wood, *Strategic Environmental Assessment and Land Use Planning: An International Evaluation* (Earthscan, 2005).

²⁶⁴ SBC 2002, c 36.

Columbia, of the 19,759 farms comprising the total farm area in British Columbia in 2011, 61.7% was pasture land (tame or seeded pasture and natural land for pasture) while cropland accounted for an additional 23%.²⁶⁵ With a similar comparative size of farm operations in British Columbia of 29,925 farms to Queensland's 28,000 farms, an analysis of British Columbia's alternative agricultural ALR zoning regime is pertinent and a baseline to explore alternative regulation to Queensland's current RPIA regime.

The passing of Bill 24, the *Agricultural Land Commission Amendment Act 2014*,²⁶⁶ thrust the issue of coexistence of ALR lands and oil and gas development into the spotlight in British Columbia. The amendment essentially split the ALR regions into two zones consisting of Northern and Southern British Columbia and six regional panels. This effectively and clearly defined the scope of provincial ALR oversight and represents an example of coexistence between agricultural and oil and gas land uses. Zone 1 representing 10% of total ALR land (Okanagan 224,977 ha; Island 116,207 ha; and South Coast 148,207 ha) and Zone 2 representing 90% of total ALR land (Interior 1,528,968 ha; Kootenay 392,557 ha; and North 2,210,783 ha).²⁶⁷

The PRRD and Northern Rockies Regional Municipality, where the majority of UGRs are located, falls within Zone 2 and under the ambit of the Delegation Agreement between the ALC and OGC. Where the combined total area occupied by the existing and proposed oil and gas activities is greater than 20 ha per quarter section, an ALCA Application is required to be made via local government for permission to use ALR land for non-farm purposes. The authority lies with the Delegation Agreement to determine whether to approve these applications.

In British Columbia currently, there are 4,620,858 ha (11,418,388.79 ac) included in the ALR, representing 5% of the total provincial area.²⁶⁸ The highest amount of ALR land in the Regional District is in the communities of Fort St John and Dawson Creek. According to the 2011 Census of Agriculture, 823,498 ha (2,0349,07.87 ac) are being farmed in the PRRD, which accounts for 64% of the region's ALR.²⁶⁹ Fort St John and Dawson Creek are situated

²⁶⁵ Statistics Canada, *2011 Census of Agriculture* (2011) <<https://www.statcan.gc.ca/eng/ca2011/index>>.

²⁶⁶ *An Act to Amend the Agricultural Land Commission Amendment Act*, SBC 2002 (2nd Sess), c 36.

²⁶⁷ ALC, *Provincial Agricultural Land Commission Annual Report 2015-2016* (2016) <http://www.alc.gov.bc.ca/assets/alc/assets/library/commission-reports/annual_report_2015-2016.pdf> 3.

²⁶⁸ As previously stated in Chapter one of this thesis.

²⁶⁹ Peace River Regional District, *Regional Agricultural Plan Background Report* (2014) <<http://prrd.bc.ca/wp-content/uploads/Background-Report-Final-November-2014.pdf>>.

above the Montney Shale Gas Basin. Consequently, resource development of shale gas and vast ALR lands must coexist in British Columbia.

Pursuant to s 26 of the ALCA²⁷⁰, the ALC can enter into an agreement to allow governments or authorities to exercise the ALC's power to decide applications for non-farm use. The ALC has exercised power to enter into an agreement with the OGC relating to certain oil and gas non-farm uses within the ALR. The OGC is consequently delegated the power of decisions over oil and gas activities on ALR land in the PRRD, where shale gas activities and contestation with agricultural land use is most prevalent in the province.

Alongside the development of the LNG industry in British Columbia is the land use clustering system regulating restrictions on all non-farm activities on protected agricultural land to encourage farming and safeguard farmland with the enactment of the province-wide ALR in 1973.²⁷¹ Public sentiment supporting the ALR stems from a desire to secure local food production, maintain the local agricultural economy and protect the environment. Environmental groups expend considerable effort encouraging the government and the general public to continue support for the protection of agricultural land.²⁷²

Both jurisdictions face similar challenges in managing the interests of agricultural landowners and commercial UGR exploitation. Striking a 'balance' between competing interests, as stated by the *Gas Supply and Demand Action Plan*, to achieve 'coexistence' between traditionally farming communities in resource-rich areas and energy companies attempting to exploit subsurface resources has been a polarising debate in Queensland.²⁷³

In the case of British Columbia, the role of the state has been to protect agricultural land through a series of regulatory mechanisms including the ALR, ALCA and the Delegation Agreement.²⁷⁴ In contrast, Queensland has relatively less institutional and administrative

²⁷⁰ *Agricultural Land Commission Act*, SBC 2002, c 36, s 33. *McCall v. British Columbia (Agricultural Land Commission)* [2012] 443 BCSC. (application to have properties removed from reserve on basis of unsuitability for soil-based farming dismissed; new hearing directed; not appropriate for court to interfere in commission's mandate by making order of mandamus).

²⁷¹ Robert Androkovich, Ivan Desjardins, Gordon Tarzwell, and Peter Tsigaris, 'Land Preservation in British Columbia: An Empirical Analysis of the Factors Underlying Public Support and Willingness to Pay' (2008) 40(3) *Journal of Agricultural and Applied Economics* 999.

²⁷² Ryan Green, *Case Studies of Agricultural Land Commission Decisions: The Need for Inquiry and Reform* (2006) <[http://www.elc.uvic.ca/documents/ALR%20Final%20Report%20\(FINAL-2\).pdf](http://www.elc.uvic.ca/documents/ALR%20Final%20Report%20(FINAL-2).pdf)>.

²⁷³ Queensland Government, Department of Natural Resources and Mines, Queensland Gas Supply and Demand Action Plan, *Discussion Paper* (2016) <https://www.dnrm.qld.gov.au/__data/assets/pdf_file/0007/805552/gas-action-plan-5107-discussion-paper.pdf> 10.

²⁷⁴ As examined in Chapter four of this thesis.

bodies to represent the interests of agricultural landowners. This has led Hester and Harrison to observe that this lack of regulation has led to ‘conflicts between agriculture and CSG strike with particular force in some of Australia’s most productive farming areas, including the Darling Downs...where the national interest in prime farmland comes into play’.²⁷⁵ The impact of this regulatory approach on agricultural landowners is outlined in detail in Chapter 5.

Table 1 illustrates the many similarities of the petroleum and agricultural policies of Queensland and British Columbia. The policy focus of ensuring the state has an active role in regulating and upholding the policy of protecting agricultural land during UGR activities without compromising the agricultural industry is upheld in British Columbia. This is in contrast to the overly export-focused wealth maximisation commercial UGR policies in Queensland. This also demonstrates the more active role of the state as manager and controller of the exploitation of UGR in British Columbia compared to the policy position of Queensland with a minimal government participatory approach.

Table 1: Comparison of Petroleum and Agricultural Policy and Regulatory Factors

Factors	Queensland	British Columbia
Petroleum Policy		
• Controlled development of UGR resources and export	✗	✓
• Participation of the state as manager and participant	✗	✗
Agricultural Policy		
• Minimalist state intervention	✓	✗
• Role of the state as regulator	✗	✓
• Efficient Agricultural Land Use Protection	✓	✓
Regulation		
• Oil and Gas Administrative Bodies regulation and decision making powers	✗	✓
• Licensing and contractual based authorisation regulation	✓	✓

²⁷⁵ R.E. Hester and R.M. Harrison, *Fracking* (The Royal Society of Chemistry, 2015) 167.

<ul style="list-style-type: none"> • Discretionary Principles-Based regulation to adjust to changing conditions 	✓	✓
<ul style="list-style-type: none"> • Crown as the owner of UGR resources 	✓	✓
<ul style="list-style-type: none"> • Commonwealth based Torrens title private land ownership 	✓	✓

Source: Compiled by author.

Another key divergence in policy is the focus and prioritisation of agriculture in a highly regulated environment in Canada. This is evident in a number of specific regulatory authorities, including the ALC and its interaction with petroleum activities and land use and access. Importantly, British Columbia starts with a prioritisation of agricultural land protection, requiring petroleum companies to prove their need to access prime agricultural land and ‘do no harm’ to the future viability of the land itself via a transparent and codified statement of agricultural land rehabilitation. Secondly, the petroleum policy with collaborative oversight of the UGR sector in British Columbia is found in the regulatory powers of the OGC, for example, the capacity to overrule a petroleum license application. This is in contrast to Queensland’s GC, which has very little regulatory and policy scope in acting as an ‘independent’ administrative body limited in to power to reviewing and making recommendations of the effectiveness of UGR regulatory frameworks to ministers and government entities.²⁷⁶

The comparison of Queensland and British Columbia’s UGR policy demonstrates that Queensland has arguably failed to develop a coherent policy framework to develop UG without compromising agricultural land while balancing multiple competing interests of stakeholders. Consequently, there is a need to review and re-evaluate Queensland’s regulation and policy framework. The policy and regulatory framework of British Columbia is a useful point of reference and comparative jurisdiction, due to the many similarities between Queensland and British Columbia in the need to create wealth, export UG and protect the existing agricultural sector in a similar political, legal and policy framework. Additionally, both states utilise the licensing and contracting system for the regulation of UGR resources.

²⁷⁶ *Gasfields Commission Act 2014* (Qld) s 7.

A number of policy changes in Queensland's current UGR framework could encourage the coexistence of multiple stakeholder interests in the development of UGR on agricultural lands. Queensland's UGR policy should consider a greater regulatory role of the state in the granting of agricultural land use and land access for UG activities. Rather than embracing a UGR policy solely focused on commercialisation and export, a shift in policy towards the safeguarding of domestic UGR reserves, agricultural land and domestic gas prices must embrace a policy of UGR exploitation that creates effective regulation in managing competing interests. This is a fundamental policy shift for Queensland with a focus on domestic energy security and the viability of its agricultural sector, rather than commercial partnership with oil and gas companies for the exploitation of UGR for export.

3.7 Sources of Conflict and Confluence of Agriculture and Petroleum Policies

The commercialisation of LNG for export on long-term contracts has driven the rapid development of UGR by the LNG consortia in Queensland.²⁷⁷ This has led to major impacts as projects have progressed and regulators have struggled to address the issues related to land use and land access. At the heart of this is conflict over the coexistence of agricultural activities and UGR extraction, which has been recently compounded by LNG shortages in eastern Australia. The site and focus of this conflict is the farm gate where energy producers and farmers attempt to negotiate the terms of coexistence through land use access agreements.

Arrow Energy's Surat Gas Project covers an area of approximately 8,600 km² in the Darling Downs, a region renowned for its agricultural productivity. Sixty per cent of this area is considered a PAA as regulated by the RPIA.²⁷⁸ As previously described, a PAA is defined in s 8(1) of the RPIA as one or more areas used for agricultural land use and is either shown on a

²⁷⁷ 'The dynamic between the capital needs of LNG producers and the long-term supply needs of LNG buyers has shaped the structure and pricing of LNG purchase and sale agreements. Buyers assume "volume risk" by agreeing to purchase certain volumes over time for delivery to a specified market on a take-or-pay basis, while producers assume "price risk" by agreeing to a price tied to the value of gas in the destination markets, which is then subject to periodic recalibration under a price review mechanism. 6 Under the typical "take or pay" model, the buyer is required to purchase the contracted quantity of LNG over the duration of the contract, and must pay for the contracted quantity even if they do not take delivery, subject to limited volume and/or destination flexibility rights, depending on the contract... Importers in key Asia-Pacific jurisdictions such as Japan and South Korea typically enter into long-term contracts with terms of 10 to 25 years'. Haig Oghigian, Lisa Henneberry, and Joe Jones, Squire Patton Boggs, 'LNG Contracts in the Asia-Pacific Region: Disputes on The Horizon?' (2017) 14(4) *Oil, Gas and Energy Law Intelligence* 1, 2.

²⁷⁸ Cindy Chen and Alan Randall, 'The Economic Contest Between Coal Seam Gas Mining and Agriculture on Prime Farmland: It May be Closer than We Thought' (2013) 15(3) *Journal of Economic and Society Policy* 9.

map in a regional plan as a PAA or prescribed under a regulation.²⁷⁹ A priority agricultural land use is highly productive agriculture of a type identified in a regional plan for an area of regional interest or prescribed under a regulation for an area of regional interests pursuant to s 8(2) of the RPIA.²⁸⁰ Strategic cropping land is defined as land that is or is likely to be highly suitable for cropping because of a combination of the land's soil, climate and landscape features and the SCA is found in the strategic cropping land trigger maps pursuant to s 10 of the RPIA.

Interestingly, if a resource activity is proposed to be carried out on land considered both a PAA and strategic cropping land area, the assessor need only be satisfied the resource activity meets the required outcomes in sch 2 of the PA Act that, among other criteria, the resource activity will not result in a loss of more than 2% of the land classified as a PAA and a loss of more than 2% of the productive capacity of priority agricultural land use on the property.²⁸¹ This is different to the criteria for managing impacts of resource activities on strategic cropping land, which states that the activity must not have a permanent impact on the strategic cropping land and the impact will be no more than 2% of the property. Ensuring a resource activity does not have a permanent impact on strategic cropping land is arguably a broader and more stringent standard that ensures the activity does not have a permanent impact on the land.²⁸²

'Coexistence' is essential to UGR regulation, as recognised by the Office of the Chief Economist that 'it has been increasingly important for the CSG industry to have a deep understanding of key issues in relation to developing and managing sustainable coexistence with the agricultural industry',²⁸³ and is fundamental to the development of CSG, necessitating its consideration through adequate regulation and policy goals. Selecting appropriate regulatory tools for land use and land access regulation is essential in managing UGR at the cumulative level to promote long-term sustainability with the agricultural sector.

The Organisation for Economic Co-operation and Development (OECD) recommends and promotes transparency to create effective regulation and advises State's to 'adhere to

²⁷⁹ *Regional Planning Interests Act 2014* (Qld) s 8(1).

²⁸⁰ *Regional Planning Interests Act 2014* (Qld) s 8(2).

²⁸¹ *Regional Planning Interests Regulation 2014* (Qld) sch 2 s 3(b).

²⁸² *Regional Planning Interests Regulation 2014* (Qld) pt 3 s 9(2).

²⁸³ Department of Industry, Innovation and Science (Cth), Office of the Chief Economist, *Review of the Socioeconomic Impacts of Coal Seam Gas in Queensland* (Commonwealth of Australia, 2015) <<https://industry.gov.au/Office-of-the-Chief-Economist/Publications/Documents/coal-seam-gas/Socioeconomic-impacts-of-coal-seam-gas-in-Queensland.pdf>> 18.

principles of open government, including transparency and participation in the regulatory process to ensure that regulation serves the public interest and is informed by the legitimate needs of those interested in and affected by regulation’.²⁸⁴ Given that the UGR industry must work with agricultural landholders, this is a particularly important regulatory issue that can lead to ‘challenges for the CSG and agricultural industries in achieving successful coexistence’.²⁸⁵

The Unconventional Gas Inquiry’s Interim Report into the operation of the UGR was released in June 2016. The report represents the latest in a series of state and federal government inquiries into the Australian UG industry. It explores, among many policy issues, the viability of current Australian regulation in protecting agricultural land from UGR activities and exploration. The 18 recommendations that emerge from the report display a heightened level of political scrutiny into the operation of the UG industry and its potential long-term effects on agriculture and rural communities. In its findings on UGR industry governance and regulatory systems, the report reflects on the patchwork of differing policy approaches by state and territory legislation in stating, ‘the unconventional gas mining industry is a long way from having adequate regulation, oversight and operation’.²⁸⁶

In British Columbia, Agricultural Planning Regulation plays a significant role in how UGR land access and land use is managed with agricultural lands. In comparison, the DILGP in Queensland regulates land use zoning protection and agricultural land use approvals, rather than the Department of Agriculture and Fisheries. Farmland preservation and global competitiveness of the agricultural sector have been the driving forces in influencing agricultural land use planning in British Columbia. This is evident in its establishment of the ALR and a quasi-judicial ALC tribunal to provide ‘the cornerstone of planning for agriculture and heightening certainty for persons engaged in farm businesses and support industries’.²⁸⁷ Important elements in the legislation include a clear mandate for the ALC that is focused

²⁸⁴ OECD, *Recommendation of the Council on Regulatory Policy and Governance* (2012) <<https://www.oecd.org/governance/regulatory-policy/49990817.pdf>> 8.

²⁸⁵ Department of Industry, Innovation and Science (Cth), Office of the Chief Economist, *Review of the Socioeconomic Impacts of Coal Seam Gas in Queensland* (Commonwealth of Australia, 2015) <<https://industry.gov.au/Office-of-the-Chief-Economist/Publications/Documents/coal-seam-gas/Socioeconomic-impacts-of-coal-seam-gas-in-Queensland.pdf>> 46.

²⁸⁶ Senate Select Committee on Unconventional Gas, Parliament of Australia, *Inquiry into Unconventional Gas Interim Report* (2016) 25.

²⁸⁷ Barry Smith, *A Work in Progress- The British Columbia Farmland Preservation Program* (2012) <http://www.alc.gov.bc.ca/assets/alc/assets/library/archived-publications/alr-history/a_work_in_progress_-_farmland_preservation_b_smith_2012.pdf>.

specifically on protecting farmland. This primary focus been maintained for over 40 years despite changing governments.

The *Right to Farm Act* and ALCA protects farm practices and extends this stability to areas of land use conflict.²⁸⁸ The policy language in the legislation incorporates local government plans consistency with the ALCA, providing a necessary link to extend the provincial legislation into the domain of local land use planning and decisions. The ALCA provides a mechanism for land owners, including governments, to apply to the ALC to exclude or include land in the ALR, to approve subdivisions and to permit non-farm uses.

Official Community Plans (OCPs), as enforceable regulatory plans, are the foundation of stability for local frameworks. Typically, OCPs include vision or goal statements, agricultural objectives and specific policies for agricultural lands. The OCP is supported by the zoning by-laws which provide regulations for designated agricultural land uses, contributing to the stability of the framework. An example of an integrated and comprehensive legislative framework is in the South Peace River Regional Area, where a local development plan, regional agricultural plan and ALR and Community Planning Guidelines operate to maintain and secure a productive agricultural resource base. The South Peace River Area is situated on the Monteny UGR tenement.

The Delegation Agreement provides a comprehensive set of regulations that define permitted oil and gas uses on agricultural land and conditions and procedures for when the ALC must be involved in application processes in the Northern Rockies and Peace River Regions.²⁸⁹ Since 2004, the Delegation Agreement has been in place and decision-making power over specific oil and gas activities on ALR land delegated to the OGC. The key purpose of the Delegation Agreement is to ‘further the one window regulation of the oil and gas sector in British Columbia and seek ways to streamline and improve the review and approval processes for oil

²⁸⁸ *Farm Practices Protection (Right to Farm) Act*, RSBC 1996, c 131.

²⁸⁹ British Columbia Oil and Gas Commission, ALR – OGC Delegation Agreement (2013)

<<https://www.bcogc.ca/node/5759/download>>. The delegation agreement is limited in that it only applies to the oil and gas sector. It is limited to ‘operators’ (article 9); and ‘producers’ (article 10) for a waste storage, treatment or disposal facility. “Operator” and “producer” are defined in the definitions section of the agreement. For example, a proposed non-farm use for a camp, borrow site, or water storage site, etc., by a non-operator, is outside this agreement and these applications are submitted via the regular ALCA non-farm use process to local government. Likewise a non-farm use proposal for a waste storage, treatment, or disposal facility by a non-producer is also outside this agreement.

and gas activities and ancillary activities on agricultural reserve lands while preserving agricultural lands and encouraging the farming of agricultural lands'.²⁹⁰

The ALCA process requires public consultation, disclosure and comment from local governments. All applications for non-farm use in the ALR are submitted to the local government before being submitted to the OGC. Local governments then review the application and determine if they will forward the application to the ALC for decision with or without a recommendation or comment.²⁹¹ Local government zoning, therefore, plays a role in determining land use and a proposed use may require re-zoning at the local level in meeting one of the key purposes of the ALCA to 'encourage local governments...to enable and accommodate farm use of agricultural land and uses compatible with agriculture in their plans, bylaws and policies'.²⁹²

Agricultural planning is not treated with the same regulatory scrutiny in Queensland. Rather, it is the Department of State Development that authorises large-scale UGR projects outside of local, regional and state planning laws. A 'coordinated project' as regulated by the *State Development and Public Works Organisation Act 1971* (Qld) (SDPWO Act) requires approval.²⁹³ For example, the Gladstone LNG Project, representing 435 km of UGR pipeline and the development of CSG fields in Roma, Emerald, Injune and Taroom and a LNG export facility, obtained approval of a 'controlled action' subject to condition and obtained approval via an EIS.²⁹⁴

The impact assessment process under the SDPWO Act is also the subject of a bilateral agreement between the Queensland and Australian Governments in relation to environmental assessment under the EPBCA and approval under pt 9 of the EPBCA was also granted to the Gladstone LNG Project. Therefore, the SDPWO Act and Department of Infrastructure and Planning manage and determine the impact assessment process for UGR projects. This is in contrast to the delegated ALC and OGC administrative bodies granting approvals for UGR activities on agricultural land via three tiers of agricultural land use planning at local, regional

²⁹⁰ Agricultural Land Commission, *Message from the Chair* (2013) <<http://www.ceaa.gc.ca/050/documents/p63919/97838E.pdf>>.

²⁹¹ *Agricultural Land Commission Act*, SBC 2002, c 36, s 18.

²⁹² *Agricultural Land Commission Act*, SBC 2002, c 36, s 6(c).

²⁹³ *State Development and Public Works Organisation Act 1971* (Qld) s 35.

²⁹⁴ The Coordinator-General's Evaluation Report for an Environmental Impact Statement, *Gladstone Liquefied Natural Gas – GLNG Project* (2010) <<https://www.statedevelopment.qld.gov.au/resources/project/gladstone-liquefied-natural-gas/cg-report-gladstone-ing.pdf>>.

and provincial levels of government based on the *Local Government Act*, *Farm Practices Protection Act*, *Agricultural Land Commission Act*, *Land Title Act* and the *Water Act*.

The exploitation of the UGR industry for export purposes creates a regulatory ‘cross roads’ for the Queensland Government—the need to consider the economic benefits of the industry against the perceived dis-benefits and impacts of the industry on agricultural farmland and communities. The distrust and anxiety this has created is evident. As stated by Hunter and Chandler in reference to Australia’s petroleum policy, ‘at the very least, the near horizon is likely to involve some introspection and reconsideration of current policy regarding new developments and efficient (petroleum) implementation’.²⁹⁵

3.8 A New Unconventional Gas Resource Policy for Queensland?

The petroleum policy implemented by British Columbia could serve as an example of a policy framework that embraces the coexistence between agricultural land and UGR. The regulatory bodies established by the Provincial Government in British Columbia seek to manage the interests of a thriving agricultural sector while balancing the projected increase in LNG extraction on farming land. British Columbia has secured a system of land use access and landowner appeal that establishes clear regulatory oversight and management of likely land impacts prior to the granting of petroleum licences.

LNG has and will continue to be a major contributor to state wealth and holds enormous potential to drive export dollars in both jurisdictions. In Australia, the headlong rush to grant UGR licences in Queensland has created an artificially high price for LNG which is currently affecting the cost of LNG for domestic consumers. This raises issues relating to national energy security and the Australian Federal Government has responded by signing a Heads of Agreement in October 2017 with producers to increase production to assist in meeting domestic supply.²⁹⁶ Yet, there is no government intervention to contain or intervene in LNG pricing. This exemplifies the arms-length relations with energy businesses and reliance on a market solution to economic and energy supply issues.

²⁹⁵ Tina Hunter and John Chandler, *Petroleum Law in Australia* (Lexis Nexis, 2013) 282.

²⁹⁶ Matt Chambers, Exporters Promise to Supply Cheap Domestic Gas’, October 3 2017, *The Australian* (Online) <https://myaccount.news.com.au/theaustralian/subscribe?pkgDef=TA_SDO_P0415A_W04&directSubscribe=true&b=true&sourceCode=TAWEB_WRE170_a&mode=premium&dest=http://www.theaustralian.com.au/business/mining-energy/exporters-promise-to-supply-cheap-domestic-gas/news-story/ade6d2be05862f214303665f00d3b2ce?memtype=anonymous>.

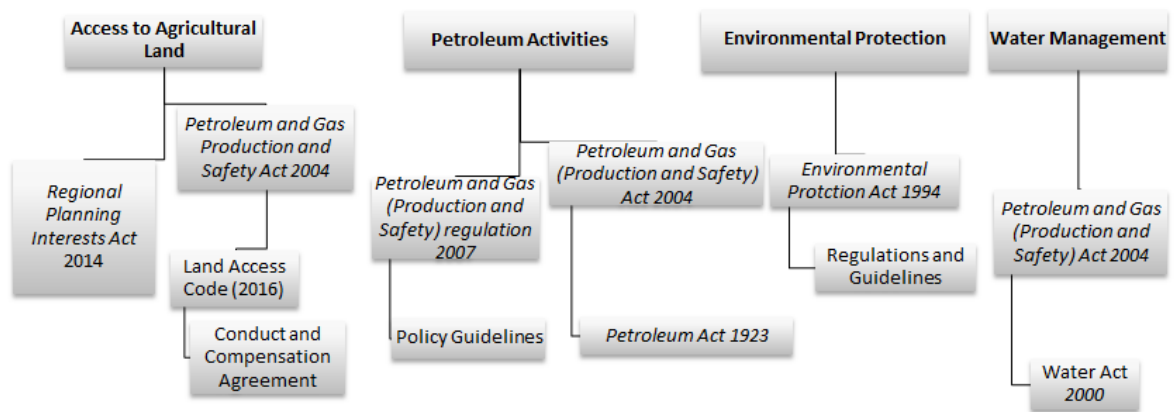
Similarly, the Australian Government continues to adopt a light touch approach to agricultural regulation with one of the lowest commodity subsidy systems in the world. This has produced an agricultural sector that must independently manage supply chains with limited government support. The effects on specific commodity sectors like the dairy industry are well documented and provide evidence of the Australian emphasis on market-led and laissez faire approaches to its agricultural sector.

Given this background, it is not surprising that Australia has adopted a ‘liberal-pluralist’ approach to the coexistence of LNG on agricultural lands.²⁹⁷ The policy framework to manage land use, land access, administrative oversight, environment impact and cumulative social impact has been formulated in this tradition. Policy failures and the inability to tackle coexistence in Queensland has led to continuing confrontation between farmers and energy companies—confrontation which has been referred to the Senate Inquiries and Parliamentary Commissions to resolve. The resulting recommendations amount to incremental changes that have been largely ineffective in foregrounding the central issue of the state’s role in managing coexistence.

With a similar legal, cultural and economic tradition, Canada provides a salutary lesson for Australia. Canadian agricultural production is protected and, in comparison to Australia, is highly regulated. While the liberal market tradition prevails, statist interventions in the agricultural sector remain as evidence of the value of agricultural land preservation for current and future generations. The notion of the ‘public good’ contained in both Australia and Canadian policy regulation is evident in the establishment of the ALR, OGC and ALC to manage multiple stakeholder interests. Figures 1 and 2 demonstrate the fundamental policy differences and similarities between Queensland and British Columbia, particularly in terms of the level of state intervention over the development of UGR on agricultural lands.

²⁹⁷ Andrew Leigh, ‘Trade Liberalisation and the Australian Labour Party’ (2002) 48(2) *Australian Journal of Politics and History* 487.

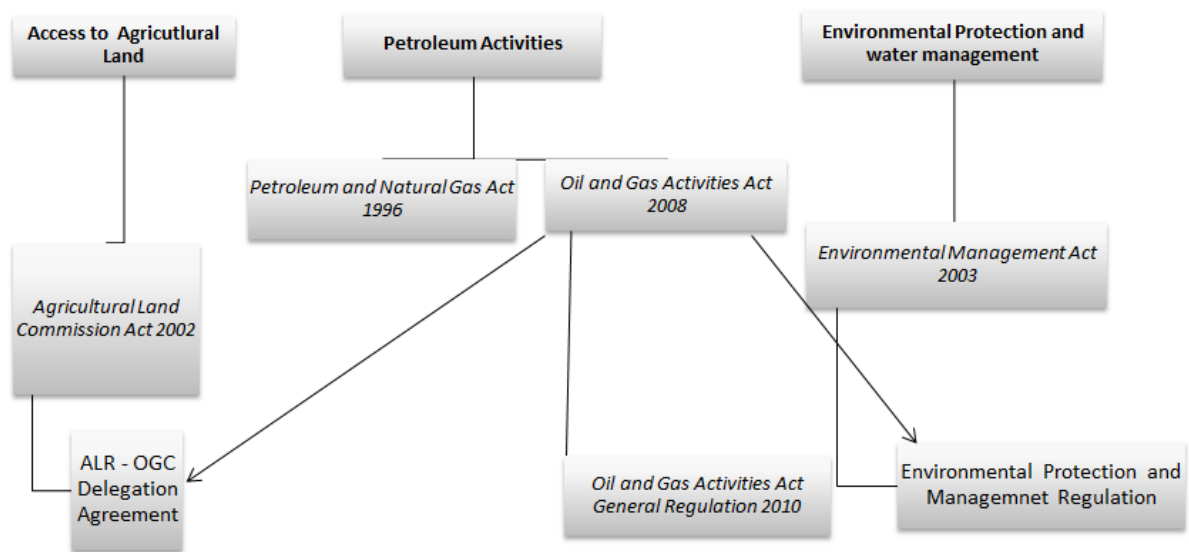
Figure 1: Overarching UG Regulatory Framework of Queensland



Source: Compiled by author.

Figure 1 provides the overarching legislation of the UGR regulatory framework of Queensland—the PGPSA and PA—and its subordinate regulation—the Petroleum and Gas (Production and Safety) Regulation 2007 (Qld) and its associated guidelines and codes of practice regulating petroleum activities. Environmental protection obligations relating to UGR are imposed through the EPA stipulating that petroleum tenures may only be granted once the petroleum license holder has received an EA categorised as ‘environmentally relevant’ activities under the EPA. Agricultural land access regulation is governed primarily through the RPIA and RIDA approvals (explored in Chapter 4) and the LAC established by the PGPSA (examined in Chapter 5). Finally, water management activities are regulated by the PGPSA in relation to hydraulic fracturing and *Water Act 2000* (Qld) (WA) for UGR activities effecting underground and aquifer systems.

Figure 2: Overarching UG Regulatory Framework of British Columbia



Source: Compiled by author.

As illustrated in Figure 2, British Columbia's UGR framework consists primarily of the PNGA, the OGAA and its associated policy guidelines and regulatory direction notices by the OGC. Environmental protection at the provincial level is regulated by the *Environmental Management Act 2003* and the EPMR, which applies only to Crown land and does not apply to private subsurface oil and gas activities associated with an operating area. The EPMR provides the statutory authority to the OGC for the management and protection of environmental values and water management. Access to agricultural land is governed by the ALR and OGC Delegation Agreement 2013 and the *Agricultural Land Commission Act 2002*. The Delegation Agreement grants regulatory powers to the OGC to decide on applications for permission for non-farm use of identified ALR lands for oil and gas activities and ancillary activities.

3.9 Conclusion

The similarity of socio-political systems and the relative infancy of UGR operations in Canada and Australia from the 1980s onwards have created seemingly similar UG policies. However, British Columbia has chosen to approach the regulation of its prime agricultural land as a natural resource in a different manner to Queensland. Australia has a similar agricultural history to Canada. In the mid-twentieth century, Australia protected its agriculture

industries through tariffs and trade restrictions to encourage agricultural production as a valued export. With the introduction of deregulation and market-led policies in the 1980s onwards this protectionism fell away. In Canada too, the rise of market-led policies confirms the competitive approach to agricultural markets, yet the state and federal governments continued to protect agricultural industries via regulation and supply chain protections.

From the 1970s onwards, political interest focused on energy security and export-led resource industry activity in both jurisdictions. This has exposed the differences in the approaches of both Commonwealth countries towards land use and agricultural land protection. In the case of British Columbia, regulation and administrative bodies such as the OGC, with the mandate of providing a single-window approach for permits and approvals for petroleum licences. The purpose case in the OGAA also requires the OGC to promote the sound development of the oil and gas industry, inter alia, by ‘fostering a healthy environment, a sound economy and social wellbeing’.²⁹⁸ Conversely, in the case of Queensland, the GC has limited regulatory power pursuant to s 7 of the GCA. Both countries have vast frontier areas, a need to accumulate transparent scientific geotechnical data and a shifting policy landscape against a backdrop of an increasingly changing global petroleum market.

This chapter has demonstrated the many similarities identifiable in the contest between managing the interests of the state’s citizens with an emphasis on the export of petroleum resources. Each state has comparable legal systems and constitutional monarchies of the Commonwealth. Both countries were founded as agrarian colonies of the UK and have turned to the development of their natural resources for export. Their development of UGR and licensing and concession system to develop these resources are also similar. The focus on commercial export, arguably without adequate consideration for land use and land access protection in managing interests of its citizens and private oil and gas corporate actors, has emphasised commercial investment over creating enduring value in Queensland. To shift this policy emphasis, Queensland requires a fundamental alteration to its policy framework to ensure transparent, accountable and inclusive principles-based regulation. A detailed analysis of the central elements for land use and land access regulatory framework is found in Chapters 4 and 5.

²⁹⁸ *Oil and Gas Activities Act*, SBC 2008, c 36, s 4.

CHAPTER 4: REGULATING LAND USE CONFLICT

4.1 Introduction

Petroleum legislation necessarily provides land access for titleholders to exploit UGRs situated onshore. Whether the activity takes place on the surface of the land or below the surface of the land, the activity of extraction unavoidably involves the use of the land.¹ In undertaking the extraction of such resources, the regulatory framework designed by the state to authorise land use is a fundamental tool in not only regulating and managing petroleum activities, but mitigating and balancing its impact on agricultural land. Effective regulation must be transparent, predictable and consistent with the overarching policy objectives of the state.² Therefore, the regulatory framework of land use legislation must be constructed as a function of the outcomes the state seeks to accomplish in the management of its petroleum resources.

Both the petroleum and agricultural sectors are of critical importance in Queensland and are often managed in conjunction, frequently with conflicting policy objectives to either preserve and productively farm land or exploit it.³ Given the importance of regulation in establishing the management of petroleum activities, especially in areas where established agricultural activities occur,⁴ this chapter examines the regulatory structure of the zoning, authorisation and exclusion of UGR land use tools and functions when operating on agricultural land.⁵ Such an examination seeks to address three critical research questions. First, what is the current regulatory framework for the management of UG exploitation on land used for agriculture? Second, are the regulatory tools utilised effective in managing conflicting land interests in the

¹ Cameron Moore, *Natural Resources Law* (Thompson Reuters, 2016) 111.

² Energy Task Force, *Securing Australia's Energy Future* (2004)

<<http://www.efa.com.au/Library/CthEnergyWhitePaper.pdf>> 51-3. For a comprehensive examination of the principles of effective regulation see Chapter 2.

³ Refer to Chapter 3 for a detailed consideration of conflict in UGR production in agricultural areas in Queensland and British Columbia.

⁴ Such as the Darling Downs, located on the Surat UGR Basin of Queensland. As stated within the Darling Downs Regional Plan:

‘The northern area of the Darling Downs region is experiencing intensive development in the resources and energy sector. The influence of this sector on communities within the northern Darling Downs has been most significant within the last five years. This area encompasses the majority of the Surat Basin, as well as rich agricultural and farming lands. Agriculture, including forestry, has traditionally been its key economic base. It features strong livestock (including the largest cattle sale centre in the southern hemisphere in Roma) and timber production markets (including a series of regionally significant cypress and hardwood sawmills)’. Queensland Government, Department of State Development, Infrastructure and Planning, *Darling Downs Regional Plan* (2013).

⁵ Priority Agricultural Areas (PAA's) as defined within the *Regional Planning Interests Act 2014* (Qld) s 8.

development of UGRs? Third, are there alternative regulatory tools available that may better manage the interests of the state in benefitting from commercial UG production while balancing the needs of agricultural land use?

This chapter seeks to establish that land contestation creates conditions ripe for *ex ante* regulatory assessment to evaluate whether the chosen regulatory approach of adaptive management will effectively promote land use coexistence in Queensland. This chapter uses a functional analysis of the different models of agricultural land use zonings and authorisations and UGR administrative bodies in British Columbia and Queensland, noting the similarities and differences before leading into potential recommendations to guide future regulation in Queensland.

To address the research questions raised throughout this chapter, the regulatory framework of Queensland, comprising primary petroleum legislation, subordinate regulation, administrative body functioning and land use zoning is analysed. Further, the chapter examines how principles-based and rule-based regulations,⁶ as differing regulatory approaches to land use, are applied in both Queensland and British Columbia to provide a detailed and comprehensive analysis of how the management of UGR on agricultural land operates in both jurisdictions.

4.2 Adaptive Management as a Regulatory Approach

As explored in Chapter 2, the regulation of UGR activities and its impact on agricultural land use has been one of the most pressing concerns for law-makers in Queensland. The State's adaptive management approach has led to significant regulatory reform since the early 2000s, given the impact of CSG extraction on agriculture and its landholders.⁷ The selection of adaptive management as a regulatory approach in Queensland's UGR industry has created a regulatory environment that requires constant additional regulations, quasi-regulations and guidance notes.⁸ This can result in a landscape where the complexity of regulation creates

⁶ As considered in-depth in Chapter 2.

⁷ This conflict is well documented in the literature. Jonathan Fulcher and Martin Klapper, 'Coal seam gas exploration and production in NSW: the new access argument' (2011) *The APPEA Journal* 51(2) 688-688; Linda Connor and Phil McManus, 'What's mine is mine(d): Contests over marginalisation of rural life in the Upper Hunter, NSW' (2013) 22(2) *Rural Society* 166; Meg Sherval and Kristian Hardiman, 'Competing Perceptions of the Rural Idyll: Responses to threats from Coal Seam Gas Development in Gloucester, NSW, Australia' (2014) 45(2) *Australian Geographer* 185; David Lloyd, Luke Hanabeth and William E. Boyd, 'Community perspectives of natural resource extraction: coal-seam gas mining and social identity in Eastern Australia' (2013) 10 *Coolabah* 114.

⁸ A detailed examination of adaptive management can be found within Chapter two.

‘unintended consequences and perverse incentives as the original outcomes are buried under sedimentary layers of fresh red tape’.⁹

When applied to the regulation of UGR extraction, passive adaptive management can create ineffective regulation due to its similarity to rule-based regulation, leading to regulatory inconsistencies and rigidity and requiring constant amendment to existing legislation and processes.¹⁰ For example, a passive adaptive management, as an ineffective regulatory approach, will lead to ambiguity in rules or laws, creating inherently imprecise or open textured regulation.¹¹ At over 808 pages, the PGPSA relies on rule-based regulation within its legislatively entrenched rules to regulate petroleum activities via new amendments each time a new regulatory situation arises.¹² An ineffective regulatory approach in this sense, relates to the ability of the Queensland government to respond to complex and changing land use, the increasing prevalence of UGR operations on agricultural land and an effective response to overlapping stakeholder interests. To date, Queensland’s regulatory response to these concerns has been to continue to take a passive adaptive management approach—that is, to adopt further rules and conditions, rather than interpreting and revising regulatory provisions, the hallmark of ‘learning’ in a regulatory setting.

Coexistence is the regulatory aim and policy of the RPIA. The stated purpose of the RPIA is to ‘manage...coexistence, in areas of regional interest, or resource activities with other activities, including, for example, highly productive agricultural areas’.¹³ The term ‘coexistence’ in regulation must be interpreted or else create uncertainty and have different meanings depending on the context or viewpoint the interpreter.¹⁴ This creates ‘conflict and confusion’,¹⁵ particularly where an individual regulatee is the subject of overlapping or competing rules emanating from federal, state and local governments or from different government agencies, as will be explored in Sections 4.4 and 4.5 of this chapter.

⁹ Catherine Allan, *Adaptive Management of Natural Resources*, Proceedings of the 5th Australian Stream Management Conference. Australian rivers: making a difference. Charles Sturt University, Thurgoona, New South Wales 26.

¹⁰ Allan, *ibid.*

¹¹ Passive adaptive management is defined as having a ‘strong focus on implementation, in particular the implementation of an historically informed best practice or policy, followed by review of that implementation’. Claudia Pah-Wostle, Pavel Kabat, Jörn Möltgen, *Adaptive and Integrated Water Management: Coping with Complexity and Uncertainty* (Springer, 2007) 65. See Chapter two for a comprehensive discussion of adaptive management.

¹² Arie Freiberg, *Regulation in Australia* (The Federation Press, 2017).

¹³ *Regional Planning Interests Act 2014* s 3(1)(ii).

¹⁴ Freiberg, *above n 12*, 208.

¹⁵ *Ibid.*

In comparison, active adaptive management emphasises objective principles designed to account for complex and collaborative regulatory spheres. Evaluation is central to adaptive management as an integral part of implementation and requires adequate planning and resources to encourage collective responsibility for understanding and managing natural resources.¹⁶ Active adaptive management then embraces a regulatory design based on clear, streamlined, transparent and predictable processes and reducing levels of prescription in removing inconsistencies between agencies and departments.¹⁷

When applied incorrectly, adaptive management is an ineffective regulatory approach for allowing UGR industry growth while balancing coexistence.¹⁸ In the event of an ineffective regulatory approach, bad regulatory design will give rise to poor tool choice creating regulatory burdens and gaps.¹⁹ As recognised by Queensland's *Gas Supply and Demand Action Plan Discussion Paper*, 'uncertain and delayed approval timeframes in regulatory processing create an administrative cost *burden* for the (UGR) sector and impacts negatively on investment attractiveness. Reducing delays may generate significant commercial benefits for the sector (UGR)'.²⁰

Adaptive management is not classified as a theoretically accepted regulatory approach by scholars, due to its traditional application as an environmental management system.²¹ Therefore, the misinterpretation of adaptive management to guide regulation can create adverse irreversible effects on agricultural activities due to the substantial lag time that exists between the undertaking of UG mining and observing/measuring the consequential adverse effects of such rule-based regulation.²² Such an approach is very much reactive, as the State responds to regulatory issues as they occur, rather than trying to anticipate and legislate for problems prior to the activity taking place. Such reactive responses are visible in Queensland.

¹⁶ Neils G Roling G and Janice Jiggins, 'Agents in Adaptive Collaborative Management: The Logic of Collective Cognition' in Louise E Buck, Charles C Geisler, John Schelhas and Eva Wollenberg (eds), *Biological Diversity: Balancing Interests through Adaptive Collaborative Management* (CRC Press, 2001) 145.

¹⁷ Stephen Dovers and Catherine Mobbs, 'An alluring prospect? Ecology, and the requirements of adaptive management' in Nichol Klomp and Ian Lunt (eds.) *Frontiers in Ecology: Building the links* (Elsevier Science Ltd, 1997) 39.

¹⁸ Nicola Swayne, 'Regulating Coal Seam Gas in Queensland : lessons in an adaptive environmental management approach?' (2012) 29(2) *Environmental and Planning Law Journal* 163.

¹⁹ Stephen Breyer, 'Analyzing Regulatory Failure: Mismatches, Less Restrictive Alternatives, and Reform' (1979) 92(3) *Harvard law Review* 547; Dieter Helm, 'Regulatory Reform, Capture, and the Regulatory Burden' (2006) 22(2) *Oxford Review of Economic Policy* 169.

²⁰ Queensland Department of Natural Resources and Mines, *Queensland Gas Supply and Demand Action Plan Discussion Paper* (2016) 23.

²¹ Swayne, above n 18, 163. Refer to Chapter 2 for types of regulation and a discussion of adaptive management and its failings as a regulatory instrument.

²² Allan, above n 9, 5.

For example, UGR exploration and production licensing processes do not have a single overarching regulatory oversight body or agency in Queensland to provide support for individual proponents to navigate the major approvals required from 12 different agencies (from state and federal governments).²³ This lack of overarching coordinating mechanism results in ‘uncertainty, complexity, time delays and costs for proponents’.²⁴

The broad range of overlapping land use and planning legislation applicable to UGR on agricultural land in Queensland has created a complex array of regulatory instruments and oversight bodies, giving rise to ‘substantial scope for unnecessary regulatory burden to be imposed’.²⁵ Such regulatory burden may impact the State’s ability to effectively manage, protect and rehabilitate priority agricultural lands. Such poorly designed regulation may, as stated by the QCA, ‘create unnecessary compliance costs, delays or uncertainties. There are tangible deadweight economic losses associated with the poorly designed regulations’.²⁶ In Queensland, land use associated with petroleum activities is subject to development consent requirements under the EPA.²⁷ An Authority to Prospect²⁸ and subsequent petroleum lease²⁹ is authorised under the PGPSA and, at the same time, an application for development consent under the *Planning Act 2016* (Qld) may also be required.³⁰ If a UGR activity falls outside the area of a petroleum lease (e.g., ancillary facilities), then it will require both an assessment under the PGPSA, RPIA and relevant local planning scheme for development approvals.³¹

4.3 Poor Regulatory Tool Choice

As previously examined in Chapter 2, particular issues arising from poor regulatory tool choices include:

- a) duplication of agencies and departmental regulatory oversight of activities

²³ Government Departments responsible for the regulation of UGR at the state level in Queensland include: The Department of Environment and Heritage Protection, Department of Natural Resources and Mines, the Department of Energy and Water Supply and the Department of Infrastructure, Local Government and Planning.

²⁴ Queensland Department of Natural Resources and Mines, above n 20, 20.

²⁵ Queensland Competition Authority (Qld), *Final Report: Coal Seam Gas Review* (January 2014) <<http://www.qca.org.au/getattachment/aaaeab4b-519f-4a95-8a65-911bc46cc1d3/CSG-investigation.aspx>> 26.

²⁶ Ibid.

²⁷ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 316; See generally, *Environmental Protection Act 1994* (Qld) ch 3 pt 2.

²⁸ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 32.

²⁹ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) div 7.

³⁰ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 33; See generally the *Planning Act 2016* (Qld) ch 3.

³¹ Note that *prima facie*, an activity authorised under the PGPSA and subject to a petroleum lease is exempt from local government planning schemes.

- b) inconsistent and poorly defined regulatory objectives leading to ineffective deployment of approvals
- c) a lack of timeliness and appellate ability for actors in granting approvals
- d) highly prescriptive and rule-based regulations, which may create public doubt to the wider community being sought, where regulations are complex to understand
- e) lack of transparency and predictability in the regulatory processes including approval decisions.³²

One of the hallmarks of a principles-based approach to regulation is clarity on ‘who decides how and when management practices will be changed...[regulation] will not be successful if used by management agencies as a basis for postponing difficult decisions that need to be made in the face of resource constraints and scientific uncertainty’.³³ Therefore, successful implementation of principles-based regulation using an active adaptive management approach will be outcome orientated, promoting clarity and transparency of regulation and streamlined administrative authorities in managing a single portfolio.³⁴ Applying a principles-based approach as a regulatory structure for management agencies, or administrative authorities in the case of the petroleum sector, must ensure sufficient flexibility and responsiveness within a broader regulatory framework.³⁵ This will allow administrative agencies to alter their regulatory approach in response to new regulatory conditions.

Consequently, this chapter examines the current administrative authorities charged with regulatory or monitoring roles in UGR activities in Queensland. In particular, the role and scope of the three facilitative oversight administrative authorities in Queensland—the GC, Officer of Groundwater Impact Assessment (OGIA) and CSG Compliance Unit—will be explored in this chapter. Queensland’s oversight administrative authorities will then be compared to British Columbia’s comparative UGR management agency, the OGC, to determine whether there may be lessons learned from the alternative approach (principles-based regulation) to the oversight of UGR and agricultural land uses. An analysis of the OGC and ALR framework, set within the regulatory framework of British Columbia, and comparing the solutions to regulatory issues in managing the differing land uses may provide

³² Freiberg, above n 12.

³³ Swayne, above n 18, 167.

³⁴ Robert Argent, ‘Components of Adaptive Management’ in Catherine Allan and George Stankey (eds), *Adaptive Environmental Management* (Springer, Netherlands, 2009) 26.

³⁵ Robert Baldwin, Martin Cave and Martin Lodge, *Understanding Regulation: Theory, Strategy and Practice* (Oxford University Press, 2012).

ideas for changes in Queensland to achieve effective land use regulation and promote coexistence.

4.4 Legal Framework Regulating Conflicting Activities

4.4.1 Outline and Objective of the Land Use Zoning Systems

The land use zoning system for the allocation of petroleum titles on agricultural land has been used in many jurisdictions, including Australia, Canada, the US and the UK.³⁶ The international context for land use law reform is provided in the *UN Conference on Environment and Development* in 1992,³⁷ where 172 nation states endorsed the *Rio Declaration* for achieving sustainable development, the core of which is a commitment to the three pillars of sustainability—economic efficiency, environmental protection and equity. Principles 3 and 4 of the Declaration demonstrate this imperative:

Principle 3: The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.

Principle 4: In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.³⁸

Agenda 21³⁹ establishes the land use goals of encouraging sustainable human settlements and integrating environmental considerations into development decisions.⁴⁰ Urban and regional planning and regulation are at the core of land use law and are the means by which governments influence the private sector to create sustainable land use planning. Thus, land use regulation consists of a variety of restrictions and authorisations for the development of property in the interest of a state's citizens while encouraging economic efficiency, environmental protection and equity.

At a broader level, competing land use interests require regulatory tools to implement land use plans, which entail goals, objectives and action steps to achieve the state's aims in differing

³⁶ John R. Nolon, 'Comparative Land Use Law: Patterns of Sustainability' (2006) 23(3) *Pace Environmental Law Review* 855.

³⁷ United Nations Conference on Environment and Development, Rio Declaration on Environment and Development, U.N. Doc. A/CONF. 151/5/Rev.1 (1992).

³⁸ Ibid.

³⁹ Report of the United Nations Conference on Environment and Development, U.N. GAOR, 46th Sess., Annex 2, Agenda Item 21, U.N. Doc. A/CONF. 151/26 (1992).

⁴⁰ Ibid.

land uses.⁴¹ Zoning is a commonly used authorisation regulatory tool which ‘divides a locality into different districts based on the uses allowed in each district’.⁴² Zoning consists of development permits which articulate the spatial allocation of land use through a set of legally enforceable texts and maps creating a licensing and approvals system of authorisation. Zoning regulations divide land into conceptual districts (‘zones’) of similar form, function and character in an attempt to manage multiple possible uses of land based on their levels of protection.⁴³ Zoning may also be considered as the main legal instrument for the control and ordering of the production and of the appropriation of the built environment.⁴⁴

An effective land use zoning authorisation regulatory tool imposes ‘rules for the present, the crafting of ordinance (zoning tool) should consider the future as the comprehensive land use plan does’.⁴⁵ Zoning, as with other regulatory planning law regulatory tools, seeks to transparently outline to landholders and private actors the extent of their property rights and need for zoning approvals by indicating the potential permissible development activities occurring on specifically zoned areas.⁴⁶ Zoning regulations operate and achieve their stated purpose via three levels of permissibility into zones—permitted without consent, permitted with consent or prohibited.⁴⁷ UGR activities in both Queensland and British Columbia are allocated as being permitted with consent in agricultural land zoning areas. Yet, the agricultural zoning frameworks for both jurisdictions differ in scope, aim and regulatory enforcement and are explored later in this section.

By dividing land into discrete districts of similar form, function and character, zoning regulations establish, in advance of applications for development permission, the permissibility of land use in each zone. Through a table the relevant regulations then specify what may or may not be developed in each zone. Although, theoretically, zoning regulations consist of spatial boundary maps, tables identifying permitted or prohibited uses in the zone and definitions specifying the permissibility of activities for each land use, zoning regulations

⁴¹ Daniel P. Selmi, James A. Kushner, Edward H. Ziegler, Joseph F. C. DiMento and John Echeverria, *Land Use Regulation: Cases and Materials* (Wolters Kluwer Law & Business, 2017).

⁴² Fennie van Straalen, Thomas Hartmann and John Sheehan, *Property Rights and Climate Change: Land Use under Changing Environmental Conditions* (Routledge, 2017) 120.

⁴³ Susan Thompson and Paul Maginn, *Planning Australia: An Overview of Urban and Regional Planning* (Cambridge University Press, 2012).

⁴⁴ Barlow Burke Jr., *Understanding the Law of Zoning and Land Use Controls* (Lexis Nexis, 2013).

⁴⁵ Straalen, Hartmann and Sheehan, above n 42, 122.

⁴⁶ Leslie Stein, *Principles of Planning Law* (Oxford University Press, 2008).

⁴⁷ David Farrier and Paul Stein, *The Environmental Law Handbook: Planning and Land Use in NSW* (UNSW Press, 4th ed., 2006).

may be complex and ineffective.⁴⁸ For instance, a heavily rule-based land use zoning scheme will provide a number of narrowly defined zoning uses and activities contained within a single zoning regulation. This creates complexity of legal interpretation and application processes both for landholders and zoning activity applicants alike in developing multiple land uses in a single zoned area.⁴⁹

Smith and Parmenter argue an overly complex land use zoning regulatory system and its associated administrative authorities can affect the legal permissibility of an activity via the over-burdensome system simply degenerating into a series of ‘checks and balances’.⁵⁰ This allows private actors seek to fit regulatory definitions of ‘permissible’ development in specific zones, rather than administrative authorities and regulation allowing assessment of proposals on their merits. Stein similarly argues where a development is to take place in a zone, a rigid legal system will mean the focus on the investigation will be on rigid rules concerned with planning, rather than the planning merits of what is proposed.⁵¹

4.4.2 Importance of Land Use Zoning in the Regulation of Conflicting Activities

As examined in Chapter 3, a significant concern for landholders is the impact of UGR activities on important agricultural areas, such as strategic cropping lands. It is recognised that UGR extraction holds the potential to affect the future viability of fertile agricultural areas that lie above UGR seams.⁵² Agricultural land use zoning and subsequent approvals of petroleum licenses on that agricultural land creates increasingly contested land use with debates over ‘what the land is for’, as demonstrated by the literature addressing this issue.⁵³

Historically, Australia has a strong agricultural sector that has changed considerably since the era of deregulation and market dominance in the 1980s and 1990s.⁵⁴ The total effect of such changes is an impact on the scope and nature of the agricultural land use regime. Numerous

⁴⁸ Selmi et. al., above n 41.

⁴⁹ Eileen Webb and Margaret Anne Stephenson, *Land Law* (Lexis Nexis, 2015).

⁵⁰ Craig B. Smith and Kelly E. Parmenter, *Energy, Management, Principles: Applications, Benefits, Savings* (Elsevier, 2015, 2nd edition).

⁵¹ Leslie Stein, *Principles of Planning Law* (Oxford University Press, 2008).

⁵² Michael Weir and Tina Hunter, ‘Property rights and coal seam gas extraction: The modern property law conundrum’ (2012) 2(2) *Property Law Review* 71.

⁵³ Saul Cunningham, Andrew Young, and David Lindenmayer, *Land Use Intensification: Effects on Agriculture, Biodiversity and Ecological Processes* (CSIRO Publishing, 2012); John Nolon, *Protecting the Local Environment Through Land Use Law: Standing Ground: Standing Ground* (West Academic, 2014); Nathalie J. Chalifour, Patricia Kameri-Mbote, Lin Heng Lye, John R. Nolon, *Land Use Law for Sustainable Development* (Cambridge University Press, 2006).

⁵⁴ Chapter two provides an examination of the historical development of Australia’s agricultural policy since deregulation.

qualitative studies have described how agricultural communities have experienced perceived instability and confusion about property ownership and legal rights when engaging with UGR titleholders.⁵⁵ This is attributed, in part, to a lack of understanding and transparency in current land use and petroleum regulation.⁵⁶

British Columbia has faced similar issues of regulating competing land use zones as evident in its creation of the ALR in 1973 to prevent the re-zoning of land designated as farmland with the passage of the ALCA.⁵⁷ The ALR strictly limits subdivision and non-farm activities and, at the time of inception, included all agriculturally zoned land parcels larger than 0.8 ha (1.97 ac).⁵⁸ By placing all farm-zoned land in the reserve, restricting development and non-agricultural uses, and requiring any applications for removal to prove no harm to local agriculture, the ALR protects much of the private land in the province. The longstanding widespread policy and regulatory support for the ALR restricting development on agricultural lands to protect farmers and farmland is evidenced in its enduring nature and operational costs of over \$90 million per year paid by the State.⁵⁹

Approximately half of the land in the ALR is in the northern region of the province. Wheat is grown primarily in British Columbia's Peace River Region in the northeast, part of the prairie grain belt east of the Rocky Mountains. In this region, more valuable crops such as canola have increasingly replaced wheat. The highest amount of ALR land in the Regional District is in the communities of Fort St John and Dawson Creek. According to the 2011 Census of

⁵⁵ Fiona Mactaggart, Liane McDermott, Anna Tynan and Christian A Gerick, 'Exploring the Determinants of Health and Wellbeing in Communities living in Proximity to Coal Seam Gas Developments in Regional Queensland' (2018) 18 *BMC Public Health* 1; Meg Sherval and Kristian Hardiman, 'Competing Perceptions of the Rural Idyll: Responses to threats from Coal Seam Gas Development in Gloucester, NSW, Australia' (2014) 45(2) *Australian Geographer* 185; Andrea Walton, Rachel Williams and Rosemary Leonard, 'Community perspectives of coal seam gas development during two phases of industry activity: construction and post-construction' (2017) 26(1) *Rural Society* 85.

⁵⁶ Everingham, Jo-Anne, Verónica Devenin and Nina Collins, "'The Beast doesn't Stop': The Resource Boom and Changes in the Social Space of the Darling Downs' (2015) 24(1) *Rural Society* 42; Cornelia Butler Flora and Jan K. Flora, *Rural communities: Legacy and change* (4th ed, 2013 Westview Press); Glenn Albrecht and Bill Pritchard, *Land of Discontent: The dynamics of change in rural and regional Australia* (UNSW Press, 2000).

⁵⁷ SBC 2002, c 36.

⁵⁸ Alison J. Eagle, David E. Eagle, Tracy E. Stobbe and G. Cornelis van Kooten, 'Farmland Protection and Agricultural Land Values at the Urban-Rural Fringe: British Columbia's Agricultural Land Reserve' (2015) 81(1) *American Journal of Agricultural Economics* 282.

⁵⁹ Robert Androkovich, Ivan Desjardins, Gordon Tarzwell and Peter Tsigaris, 'Land Preservation in British Columbia: An Empirical Analysis of the Factors Underlying Public Support and Willingness to Pay' (2008) 40(3) *Journal of Agricultural and Applied Economics* 999.

Agriculture, 823,498 ha (203,490,7.87 ac) are being farmed in the PRRD, which accounts for 64% of the region's ALR.⁶⁰

The Canada Land Inventory uses seven capability classifications for agriculture ranging from class 1 for Optimum potential, full range of crops to class 7 for no agricultural capability. The land classification in the PRRD illustrates the region has 0.3% level 1 lands located in the ALR, while approximately 8% of the ALR is class 2 land.⁶¹ These lands are located north of Clayhurst, south of Dawson Creek, east of the British Columbian and Alberta border and west to as far as Valley View, Kilkerran and South Dawson. Another band of class 2 lands are located north of the Peace River near Cecil Lake, Flatrock, Rose Prairie, Montney and Charlie Lake. Other areas of class 2 land are in the area of Halfway Ranch and at various locations along the Peace River west of Bear Flat.⁶² Class 3 and class 4 lands included in the ALR are located throughout the Regional District, and account for 62% of the ALR. The Horn River Basin (78 Tcf marketable UG) near Fort Nelson and the Montney Basin (271 Tcf marketable UG) which underlines much of the Peace River Region.⁶³ Consequently shale gas plays and vast ALR lands overlap in this region, leading to the ALC's coordination of its non-farm use exclusionary regulations with the OGC of British Columbia.⁶⁴

Contestation between UGR licence holders and agricultural landowners is reflected in increasing pressure on agricultural land in British Columbia. These pressures are described by Dufty-Jones and Connell as farm income, food for national self-sufficiency and economic benefits via global agricultural markets while sustaining local agricultural economies, and vitality of rural communities and to protect and enhance the environment and ecosystems.⁶⁵ While the focus of land use contestation and UG exploitation has, to date, been on Aboriginal Communities in British Columbia,⁶⁶ it is arguable as the Province seeks approval for the

⁶⁰ Peace River Regional District, *Regional Agricultural Plan Background Report* (2014) <<http://prrd.bc.ca/wp-content/uploads/Background-Report-Final-November-2014.pdf>>.

⁶¹ F Last, M Hotz and B Bell, *Land and its Uses — Actual and Potential: An Environmental Appraisal* (Springer, 2013).

⁶² Green, Arthur, Siobhan McPhee, Aviv Ettya, Britta Rocker and Christina Temenos, *British Columbia in a Global Context* (An Open Education Resource Textbook) (BCcampus OpenEd, 1st ed, 2014) <<https://opentextbc.ca/geography/chapter/6-6-case-studies/>>.

⁶³ Natural Resources Canada, *British Columbia's Shale and Tight Resources* (2017) <<http://www.nrcan.gc.ca/energy/sources/shale-tight-resources/17692>>.

⁶⁴ Diane Katz, *Studies in Risk & Regulation: The BC Agricultural Land Reserve: A Critical Assessment* (The Fraser Institute, 2009).

⁶⁵ Rae Dufty-Jones and John Connell, *Rural Change in Australia: Population, Economy, Environment* (Ashgate Publishing, 2014); Lindsay Greer, Stacey Tabert and Stewart Lockie, 'Food, Coal or Gas? Community Action, Land Use Conflict and Procedural Fairness in the Surat Basin' (2012) <https://researchonline.jcu.edu.au/34872/1/Food_coal_gas.pdf>.

⁶⁶ Dwight G. Newman, *The Duty to Consult: New Relationships with Aboriginal Peoples* (UBC Press, 2009).

construction of several LNG ports requiring an increase in UG drilling and wellheads, the contestation of agricultural land reserved areas and UGR will become increasingly apparent. Considering these multiple and often contrasting demands on the land and the complexities they generate, agriculture is a highly politicised regulatory space.⁶⁷ It is also a multi-actor sector with decision-makers ranging from individual farmers to national law-makers, each with their own incentives, perspectives and priorities.

Land use planning legislation has historically been regulated by local governments in Australia via zoning and development approvals, geographically confined within state boundaries in local planning instruments.⁶⁸ Primary responsibility for the development of private lands rests with local governments. However, state-level public and crown land planning instruments are ‘triggered’ when land uses ‘(to) protect or give effect to State interests and is either a State planning policy or a regional plan’.⁶⁹

Effective land use regulation creates legitimate regulatory objectives warranting legal intervention in the relationship between agricultural land use and UGR titleholders and their mutual use of the land. Firstly, the state must promote the public interest in the development of its natural resources and not simply the interests of private parties. Secondly, the state must manage the implications of information asymmetry and ineffective land use zoning and exclusions between the two land uses. Thirdly, the state must adopt appropriate allocation of the regulatory objectives of UGR development on agricultural land to create mutual coexistence as the result of effective principles-based regulation.⁷⁰

4.4.3 Legal Framework Regulating Conflicting Activities

In Queensland, following the review of the repealed SCL Act⁷¹ and the *Land Access Review Implementation Report* (2013),⁷² the current RPIA regime was enacted.⁷³ The RPIA is the

⁶⁷ Claire A. Dunlop and Claudio M. Radaelli, *Handbook of Regulatory Impact Assessment* (Edward Elgar, 2016).

⁶⁸ *Planning Act 2016* (Qld) s 8.

⁶⁹ *Planning Act 2016* (Qld) s 8 (2).

⁷⁰ Nicole Gurran, *Australian Urban Land Use Planning Introducing Statutory Planning Practice in New South Wales* (Sydney University Press, 2007).

⁷¹ The Queensland Government reviewed the SCL regime in 2013 to review its effectiveness amongst resource companies concerns the regime was burdensome on their prospective petroleum turns. In summary the changes to the SCL and incorporated into the RPIA included introducing a lower threshold which would exempt development impacts from SCL assessments. Developments that produce a permanent impact on SCL land may have more of a change ‘of being allowed as exceptional circumstances’ under the RPIA. As part of the SCL Act repeal, the cropping history test provisions for land within the Strategic Cropping Land Management Area were removed. The cropping history test provided an opportunity to confirm land as non SCL based on its historic land use.

latest regulatory response aiming to promote coexistence between multiple land zoning regulations and development activities in creating a broad ‘areas of regional interest’⁷⁴ planning and zoning framework for agriculture, communities and the environment. The purpose of the RPIA is stated to:

- a) identify areas of Queensland that are of regional interest because they contribute, or are likely to contribute, to Queensland’s economic, social and environmental prosperity
- b) give effect to the policies about matters of State interest stated in regional plans
- c) manage, including in ways identified in regional plans—
 - i) the impact of resource activities and other regulated activities on areas of regional interest, and
 - ii) the coexistence, in areas of regional interest, of resource activities and other regulated activities with other activities, including, for example, highly productive agricultural activities.⁷⁵

To achieve this purpose, the RPIA aims to provide a transparent and accountable process for the impact of proposed resource activities on areas of regional interest.⁷⁶ The RPIA and the *Regional Planning Interests Regulation 2014* (Qld) (RPI Reg) are aimed at delivering a ‘responsive adaptive management’⁷⁷ regulatory framework for the protection of agricultural land and the cumulative impact of UGR mining. The RPIA prescribes a new approvals process in the creation of RIDAs for ‘resource activities’ and other ‘regulated activities’ that are carried out in ‘areas of regional interest’, unless the person holds or is acting under ‘a regional interests development approval’.

⁷² Land Access Implementation Committee, Parliament of Queensland, *Land Access Implementation Committee Report* (30 August 2013)

<<http://www.parliament.qld.gov.au/Documents/TableOffice/TabledPapers/2014/5414T5893.pdf>>.

⁷³ The RPI regime consists of the *Regional Planning Interests Act 2014* (Qld); Regional Planning Interests regulation 2014 and creates and regulates twelve regional zoning plans in total namely: the South East Queensland Regional Plan (2017); Cape York Regional Plan (2014); Central West Regional Plan (2009); Cape York Regional Plan (2014); Far North Queensland regional Plan (2009); Gulf Regional development Plan (2000); Mackay, Isaac and Whitsunday Regional Plan (20012); Maranoa-Balonne Regional Plan (2009); North West Regional Plan (2010); South West Regional Plan (2009) and Wide Bay Burnett Regional Plan (2011). The RPI regime has also released eleven policy guidelines in total.

⁷⁴ *Regional Planning Interests Act 2014* (Qld) s 3.

⁷⁵ *Regional Planning Interests Act 2014* (Qld) s 3.

⁷⁶ *Regional Planning Interests Act 2014* (Qld) s 3(2).

⁷⁷ Poh-Ling Tan, David George and Maria Comino, ‘Cumulative risk management, coal seam gas, sustainable water, and agriculture in Australia’ (2015) 31 *International Journal of Water Resources Development* 682.

Carrying out a ‘regulated activity’ is defined as likely to ‘have a widespread and irreversible impact on the area of regional interest and prescribed under a regulation’⁷⁸ for the area’.⁷⁹ In contrast, a ‘resource activity’ is defined as an ‘activity for which a resource authority is required to lawfully carried out or an authorised activity for the authority or proposed authority under the relevant resources Act’.⁸⁰ Two of the mentioned ‘Resource Acts’ are PGPSA and PA Act, both regulating CSG activities. Further, a resource authority is stated as including petroleum licences to prospect, a petroleum lease, a pipeline licence and a petroleum facility licence.⁸¹

The RPIA acknowledges the use of regional plans to promote coexistence of resource activities in areas of regional interest. The RPI Reg framework identifies and protects areas of regional interests to ensure a balance between protecting ‘priority land uses’ (such as farming on highly fertile land) and supporting diverse economic development.⁸² The four areas of regional interests are PAAs, PLAs, SCAs and strategic environmental areas.⁸³ PAAs are defined as areas used for a priority agricultural land and either shown in a regional zoning plan as a priority agricultural land area or prescribed under a regulation.⁸⁴ A priority agricultural land use is ‘highly productive agriculture of a type identified in a regional plan for an area of regional interest or of a type prescribed under a regulation for an area of regional interest’.⁸⁵

A petroleum activity on a PAA is exempt from needing a RIDA approval where the resource activity applicant:

- a) enters agreement of the land owner and the activity ‘is not likely to have a significant impact on the priority agricultural area or area that is in the strategic cropping area and the

⁷⁸ *Regional Planning Interests Act 2014* (Qld) s 12

(1) A *Resource Act* is any of the following—

(a) *Geothermal Energy Act 2010*;

(b) *Greenhouse Gas Storage Act 2009*;

(c) *Mineral Resources Act 1989*;

(d) *Petroleum Act 1923*; or

(e) *Petroleum and Gas (Production and Safety) Act 2004*.

⁷⁹ *Regional Planning Interests Act 2014* (Qld) s 17.

⁸⁰ *Regional Planning Interests Act 2014* (Qld) s 12.

⁸¹ *Regional Planning Interests Act 2014* (Qld) s 13(e).

⁸² *Regional Planning Interests Act 2014* (Qld) sub-div 2.

⁸³ *Regional Planning Interests Act 2014* (Qld) s 7.

⁸⁴ *Regional Planning Interests Act 2014* (Qld) s 8(1).

⁸⁵ *Regional Planning Interests Act 2014* (Qld) s 8(2).

activity is not likely to have an impact on land owned by a person other than the land owner

b) the activity is carried out for less than 1 year, or

c) the activity is pre-existing before the RPIA was introduced in 2014.⁸⁶

Further, a petroleum survey licence, a data acquisition authority or a water monitoring authority under the PGPSA is exempt from the RPIA and the RIDA approvals regime as it is not defined as a 'resource activity'.⁸⁷ A resource activity is defined as having an impact on the PAA if the resource activity has an impact on the suitability of the land to be used for a PAA or, in the case of SCL, if a resource activity has an impact on those factors (land's soil, climate and landscape feature) that make the area highly suitable, or likely to be highly suitable, for cropping.⁸⁸ A significant impact is broadly defined as being an impact 'that is important, notable or of consequence, having regard to its context or intensity'.⁸⁹ Further, for a significant impact to be 'likely' to have a significant impact, 'a lack of scientific certainty about the potential impacts of an activity will not in itself justify declaring the activity unlikely to have a significant impact on the area of regional interest'.⁹⁰

This broad definition of a likely 'significant impact' requires each RIDA application to be assessed on a case by case subjective basis. A subjective standard is arguably a lower threshold to prove than an objective-based definition, or a land class system as in British Columbia, that specifies the types of resource activities that do constitute a significant impact. For example, Appendix I of British Columbia's OGC – ALR Delegation Agreement⁹¹ outlines specific resource activities and facilities that are objectively permitted on ALR lands according to objective criteria (analysed in Section 4.5 of this thesis).

The RPIA also adopts and integrates the previous SCL Act policy framework of protecting SCL areas defined as 'land that is, or is likely to be, highly suitable for cropping because of a combination of the land's soil, climate and landscape features'⁹² or identified by the SCL trigger map as being areas of regional interest. The Darling Downs, for example, is located

⁸⁶ *Regional Planning Interests Act 2014* (Qld) div 2.

⁸⁷ Queensland Government, Department of Infrastructure, Local Government and Planning, *RPIA Statutory Guideline 04/14* (2017) 2.

⁸⁸ *Regional Planning Interests Act 2014* (Qld) s 22.

⁸⁹ Queensland Government, Department of Infrastructure, Local Government and Planning, *RPIA Statutory Guideline 02/14* (2017) 2.

⁹⁰ *Ibid.*

⁹¹ British Columbia, Oil and Gas Commission, *ALR – OGC Delegation Agreement* (2013) <<https://www.bcogc.ca/node/5759/download>>.

⁹² *Regional Planning Interests Act 2014* (Qld) s 10(2).

within the Eastern Darling Downs SCL Zone and the Western SCL Zone extends to Roma.⁹³ Both of these zones are located over the Surat UGR basin. If an SCL Area is situated within a PAA, then the PAA criteria and RIDA application procedure apply. That is, whether the SCA criteria are met or not is irrelevant in deciding that part of the application where the overlap occurs. However, the SCA criteria must be met for all areas where no overlap occurs.⁹⁴

Schedule 2 of the RPI Reg provides criteria for assessment or decisions of a proposed resource activity (such as CSG extraction) in the SCL areas.⁹⁵ This criteria requires an RIDA applicant to identify whether an activity will have a ‘permanent impact’ on SCL. An activity has a ‘permanent impact’ on SCL if, when the activity is carried out, the land cannot be restored to its pre-activity condition. Pre-activity condition is defined as ‘the condition of the land’s soil as identified and analysed within one year before the making of a RIDA application to be carried out on the land’.⁹⁶ Therefore, the SCL requirement for restoration of lands to its pre-activity condition is higher than that of a PAA likely significant impact as ‘restoring the land means that the land is not only returned to its pre-activity use but that it is also returned to its pre-activity productive capacity or potential productive capacity’.⁹⁷

As UGR facilities and wells are classified as temporary infrastructure,⁹⁸ it is not likely that UGR activities will likely have an evident permanent impact on SCL or significant impact on PAA land immediately. This is because the UGR well itself may be remediated and the soil rehabilitated, but the flow back of UGR produced water could arguably create permanent impacts to surface and groundwater systems if not adequately treated. In a study by Ali, Strezov, Davies and Wright, water found downstream of UGR activities pointed to high metal content including aluminium, iron, manganese, nickel and zinc.⁹⁹ This would likely impact future farm soil and cropping viability to agricultural lands reliant on surface and underground water aquifers. Therefore, even though UGR wells are temporary in nature, the impact to

⁹³ Queensland Government, Department of Natural Resources and Mines, Strategic Cropping Land Zone Map (2017) <https://www.dnrm.qld.gov.au/__data/assets/pdf_file/0006/171564/scl-zone-map.pdf>.

⁹⁴ Queensland Government, Department of Infrastructure, Local Government and Planning, *RPIA Statutory Guideline 03/14* (2017).

⁹⁵ Regional Planning Interests Regulation Schedule 2.

⁹⁶ Queensland Government, Department of Infrastructure, Local Government and Planning, *RPIA Statutory Guideline 09/14* (2017) 3.

⁹⁷ *Ibid*, 3.

⁹⁸ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 442.

⁹⁹ Ali Al-Ibrahim, Vladimir Strezov, Peter Davies and Ian Wright, ‘Environmental impact of coal mining and coal seam gas production on surface water quality in the Sydney basin, Australia’ (2017) 189(9) *Environmental Monitoring Assessment* 408.

underground aquifers is long term and permanent, as examined in Sections 4.4.3 and 4.7 of this chapter.

The other significant exemption of the RPIA is of pre-existing activities. Resource activities are exempt from requiring a RIDA where the resource authority for the petroleum activity was issued or granted before 30 January 2012.¹⁰⁰ Prior to 2012, the majority of UGR activities and LNG export contracts had already commenced in some agricultural areas of Queensland, for example, in the Darling Downs.¹⁰¹

PAAs include the major dryland and irrigated cropping areas of the Darling Downs situated in the Murray-Darling Basin. The Murray-Darling Basin represents 20% of Australia's total agricultural land area, but contributing almost 40% of the annual gross value of agricultural production.¹⁰² Irrigated agriculture is the major user of the Basin's water resources (currently around 40%) and contributes around 37% of the Basin's agricultural output.¹⁰³ Key agricultural products from the Basin are fruit and nuts, vegetables, table and wine grapes, dairy, rice, cotton, grain, sheep and beef cattle. In 2012–2013, irrigation in the Murray-Darling Basin accounted for around 50% of Australia's irrigated agricultural production and was worth around A\$6.8 billion.¹⁰⁴

The Darling Downs is recognised as the 'food bowl' of Queensland, accounting for an estimated quarter of the State's agricultural production.¹⁰⁵ This fertile black volcanic soil region¹⁰⁶ lies above some substantial UGR basins—the Surat, Bowen and Clarence–Moreton. The Surat Basin is a geological basin that extends across an area of 270,000 km². Two thirds of the basin occupies a large part of Southeast Queensland and the remainder is in northern New South Wales. The communities in this region are situated above the GAB, the largest

¹⁰⁰ *Regional Planning Interests Act 2014* (Qld) s 99.

¹⁰¹ John Williams, *An Analysis of Coal Seam Gas production and Natural Resources Management in Australia Issues and Ways Forward* (2012) <http://www.aie.org.au/AIE/Documents/Oil_Gas_121114.pdf>.

¹⁰² John Quiggin, Sarah Chambers and T. Mallawaarachchi, *Water Policy Reform: Lessons in Sustainability from the Murray Darling Basin* (Edward Elgar, 2012).

¹⁰³ Murray-Darling Basin Authority, *The Socio-Economic Implications of the Proposed Basin Plan* (May 2012) <https://www.mdba.gov.au/sites/default/files/archived/revisedBP/PBP_socioeconomic_implications.docx> 35.

¹⁰⁴ Murray-Darling Basin Authority (Cth), *Towards a Healthy, Working Murray-Darling Basin: Basin Plan Annual Report 2013–14* (MDBA Publication No 46/14, 2015). <<https://www.mdba.gov.au/sites/default/files/pubs/Basin-Plan-annual-report-2013-14.pdf>> 34.

¹⁰⁵ Nina Collins and Jo-Anne Everingham, *Energy resources from the food bowl: An uneasy co-existence. Identifying and managing cumulative impacts of mining and agriculture* (2013) Research Paper, Sustainable Minerals Institute, University of Queensland: Brisbane, Australia.

¹⁰⁶ The Darling Downs region is known for its rich, black volcanic soils, producing most of Queensland's wheat, oilseeds and approximately half of its maize. The region also has sheep, cattle and dairy farms and an intensive livestock industry.

and deepest artesian basin in the world,¹⁰⁷ and rely on the GAB for access to subsurface water for agricultural activities.

The RPIA includes regional plans that address a broad range of land use regulation and zoning, of which agriculture is one use among an array of other equal planning land uses. For example, PLAs are identified through regional planning governed by the *Planning Act 2016* (Qld)¹⁰⁸ and include the existing settlement area of a city, town or other community that is to be protected for the future growth of the existing settled area.¹⁰⁹

In comparison to Queensland's RPI Reg land use zoning regime, British Columbia holds one of the most established agriculture-specific land use protection regimes in North America. British Columbia and Quebec have enacted comprehensive land use regulations to protect their agricultural land base. British Columbia manages the ALR with a 'protective, exclusionary and far-sighted response'¹¹⁰ to avoid social and economic calamities, such as reduction of agricultural land, exacerbation of natural hazards and increased economic inequities. Other provinces have included the protection of agricultural land in the land use policies established to guide local land use planning, similar to Australia.

British Columbia's ALR is one of the earliest international examples of legislated agricultural land preservation or 'farmland freeze'¹¹¹ through land use regulation.¹¹² The ALR is the result of unique legislation and by-laws responding to local conditions, yet stemming from the threat of urban sprawl to agricultural production and lands. The ALR creates classes of agricultural land classified via the Canada Land Inventory agricultural interpretation (as previously

¹⁰⁷ Commonwealth of Australia, *Future Directions for the Management of the Great Artesian Basin* (2015) <<http://www.gabcc.gov.au/sitecollectionimages/resources/dfd46067-0d59-4056-a51d-29f641bfcc4e/files/gab-future-directions.pdf>>. The GAB stretches over 1,700,000 square kilometres and provides the only source of fresh water through much of inland Australia. Water emerges naturally from the Basin through cracks in the rock encasing the water, into springs, shallow water tables or into creeks and rivers creating a permanent water source even during dry periods. Most springs and leakages occur on the edges of the Basin where water is close to the surface. The Strategic Management Plan, endorsed by the Australian, New South Wales, South Australian, Queensland and Northern Territory governments in 2000, is a strategic framework for responsible groundwater and related natural resource management in the GAB.

¹⁰⁸ *Planning Act 2016* (Qld), Ch 2.

¹⁰⁹ Queensland Department of Infrastructure, Local Government and Planning, *RPIA Statutory Guideline 04/14* <<https://www.dilgp.qld.gov.au/resources/planning/planning/statutory-guideline-04-14.pdf>> 3.

¹¹⁰ Danielle Noble, *Regional planning and British Columbia's agricultural land reserve: A case study of land use, development and policy impacts in the Central Okanagan Valley* (Masters Thesis, Wilfrid Laurier University, Department of Geography and Environmental Studies, 2004) 19.

¹¹¹ Barry Smith, 'The Farmland Preservation Program in British Columbia' in Wayne Caldwell, Stew Hilts and Bronwyn Wilton, *Farmland Preservation: Land For Future Generations* (University of Manitoba Press, 2017) 20.

¹¹² Denver V. Nixon and Lenore Newman, 'The efficacy and politics of farmland preservation through land use regulation: Changes in southwest British Columbia's Agricultural Land Reserve' (2016) 59 *Land Use Policy* 227.

discussed in this chapter), derived from climate, soil variability and topography data, ranging from class 1 to 7 (class 1 being the highest quality agricultural land).¹¹³ Additionally, the ALC examines the agricultural potential of the parcel and surrounding lands by looking at agriculture capability ratings in addition to factors related to productivity, yield and suitability.¹¹⁴ According to Noble:

The ALR is a policy tool that has perhaps been a far-sighted response to avoid social and economic calamities, such as reduction of opportunities, loss of visual amenity and agricultural land, exacerbation of natural hazards, elimination of resource based jobs, unsightly urban sprawl, health problems and inequities...it has served to preserve agricultural lands...without this framework, B.C. planning direction and land-use would be noticeably different.¹¹⁵

The ALR is the first example of integrated planning based on arable land protection in Canada and one of the first agricultural land zoning protection tools in North America. Since 2009, the ALR totals roughly 5% of British Columbia's area.¹¹⁶ This figure is relatively small because of the provincial landmass and plates, with three quarters of the land base begin about 1,000 metres in elevation resulting in the relative scarcity of agricultural land. However, as an indication of the quality of its ALR land base, British Columbia accounts for over 5.8% of Canada's total annual gross farm receipts, 9.6% of all farms, 7.7% of all cattle, 14.2% of all chickens and 19.4% of all land grown fruits, berries and nuts.¹¹⁷ The ALR provides evidence of the State's policy of protecting arable land as a critical social, environmental, economic commodity for the future of food production for British Columbia.

From a regulatory or administrative perspective, the ALR creates an overarching framework in the form of agricultural zoning that must be followed throughout the province. The ALR seeks to accommodate and respond to other dynamics that impact land uses, such as technological advances, farming practices, production costs, population and income growth, international competition and provincial agricultural policies. Noble postulates that the concern of loss of agricultural land flows from three elements:

¹¹³ As previously discussed in Section 3.2.

¹¹⁴ Green, Arthur, Siobhan McPhee, Aviv Ettya, Britta Rocker and Christina Temenos, *British Columbia in a Global Context* (An Open Education Resource Textbook) (BCcampus OpenEd, 1st ed, 2014) <<https://opentextbc.ca/geography/chapter/6-6-case-studies/>>.

¹¹⁵ Noble, above n 110, 40.

¹¹⁶ Diane Katz, above n 64.

¹¹⁷ Smith, above n 111, 20.

- 1) Economic, social and environmental interests depend heavily upon the quality and quantity of agricultural land. Agricultural land consists of cropland, pastureland, rangeland, and managed forests. The functions of these landscapes provide important commodities for the marketplace, but also have intangible functions such as ecological performance, air and water purification and aesthetic values.
- 2) The conversion of agricultural landscapes to development projects hinders many aspects of production and natural functioning, a trend predicted to worsen in the foreseeable future.
- 3) Dominant land use planning models have been very wasteful, commonly taking a dispersed pattern that abandons destitute and decaying urban cores while consuming rural landscapes with suburban sprawl.¹¹⁸

Curran argues the importance of effective regulation of agricultural zoning for agricultural land use protection, ‘is in the provincial interest, and the provincial government is best able, to steward the long-term food system needs of the citizens of British Columbia. The ALR program and the Commission’s role is for the principle purpose of preserving the non-renewable farmland base’.¹¹⁹ As Smith states, ‘it is impossible not to be impressed by the qualities of the political act which grasped the farmland nettle in British Columbia. It is skilful, logical, bold and strong’.¹²⁰

The land use conflicts with UGR extraction in British Columbia will likely be increasingly present in local agrarian communities in the ALR zoned areas where UGR development will occur.¹²¹ Therefore, maintaining agricultural production while enabling UGR resource use to occur in a streamlined approach between administrative agencies is essential to deliver effective and transparent regulatory framework to ensure long-term consistency of regulation.

¹¹⁸ Noble, above n 110 8-9.

¹¹⁹ Deborah Curran, ‘British Columbia’s Agricultural Land Reserve: A Legal Review of the Question of Community Need’ (2007) *Smart Growth BC* 4.

¹²⁰ Barry Smith, above n 111, 20, 22.

¹²¹ The conflicts of First Nations in Northeastern British Columbia and UGR activities are beyond the scope of this thesis. However, Treaty 8 First Nations and their relationship with UGR private companies have been well documented in the literature. For example, see Annie L. Booth and Norman Skelton, “‘There’s a Conflict right There’: Integrating Indigenous Community Values into Commercial Forestry in the Tl’azt’en First Nation’ (2011) 24(4) *Society and Natural Resources* 368.

The formation of the ALC is considered a major event in the evolution of regional planning in Canada and in planning for conservation, resource development and the environment.¹²² The ALC holds the following objects pursuant to s 6 of the ALCA:

- (a) To preserve agricultural land;
- (b) To encourage farming on agricultural land in collaboration with other communities of interest; and
- (c) To encourage local governments, First Nations, the government and its agents to enable and accommodate farm use of agricultural land and uses compatible with agriculture in their by-laws, plans and policies.¹²³

The ALC states its objective principles in s 20 of the ALCA, which takes a protective stance in prohibiting non-farm uses of ALR lands in stating a person ‘must not use’ agricultural land for non-farm uses unless permitted into the ALCA.¹²⁴ The ALCA then goes on to permit an owner of agricultural land or a person with a right of entry to agricultural land to apply to the ALC for permission for a non-farm use of agricultural land.¹²⁵ Therefore, before land in the ALR can be developed, the particular parcel must first either be removed from the reserve or a non-farm use or subdivision development must be permitted where the parcel remains in the reserve.¹²⁶ This is in contrast to the RPI Reg regime, which identifies regional interest areas, gives effect to policies within regional plans and ‘manages’ the impact of resource activities in areas of regional interest through coexistence.¹²⁷ An RIDA license then provides the approval for resource activities on agricultural lands to be carried out.

4.4.4 Agencies Regulating Conflicting Land Uses in Agricultural Zones

4.4.4.1 Protecting Priority Agricultural Land

The RIDA process was introduced as a regulatory tool to uphold the effect of regional plans directed at resolving land use conflict. For example, the regional plans for central Queensland and Darling Downs focus on addressing ‘potential land use conflicts which may arise from the interaction between agriculture and mining—two vital pillars of Queensland’s

¹²² Smith, above n 111.

¹²³ *Agricultural Land Commission Act*, 2002, SBC Ch 36, s 6.

¹²⁴ *Agricultural Land Commission Act*, 2002, SBC Ch 36, s 20.

¹²⁵ *Agricultural Land Commission Act*, 2002, SBC Ch 36, s 20.

¹²⁶ Androkovich, above n 59, 365.

¹²⁷ *Regional Planning Interests Act 2014* (Qld) s 3(1).

economy'.¹²⁸ The RPIA makes it an offence to carry out a resource activity in an area of regional interest without obtaining an RIDA.¹²⁹ Therefore, unless a particular exemption is available,¹³⁰ a proponent must make an 'assessment application' to the chief executive¹³¹ to be granted an RIDA to undertake resource activities in an area of regional interest. An 'eligible person', meaning a person who holds or has applied for an EA or resource authority for the resource activity, and a person who intends to carry out a regulated activity in an area of regional interest may apply for an RIDA.¹³²

The process outlined in the RPIA for obtaining a RIDA is similar to the process for the granting of certain environmental authorities under the EPA¹³³ or development approvals under the *Planning Act 2016* (Qld).¹³⁴ In particular, the applicant must notify underlying landowners (and potentially the broader public, depending on the land use categorisation) of its application. Submissions may be made on the application and the application may be referred to other agencies for assessment and advice (including local government and the GC).¹³⁵ The RPIA requires an assessment application to be publicly notified if the proposed resource activity is in a PLA (as stated in the RPI Reg)¹³⁶ or the chief executive has given the applicant a requirement notice requiring the applicant to notify the application.¹³⁷

Notification of an application provides the opportunity for the community to express their views about a particular proposal and for the government to consider these views when deciding an application. If a proposed resource activity is to be carried out in a PLA, the local community's views are considered in assessing the level of impact of the proposal on the

¹²⁸ Queensland Government, *Department of State Development, Infrastructure and Planning, Darling Downs Regional Plan* (2015) <<http://www.dilgp.qld.gov.au/resources/plan/darling-downs/darling-downs-regional-plan.pdf>> 1.

¹²⁹ *Regional Planning Interests Act 2014* (Qld) s 16.

¹³⁰ The exemptions for resource activities that do not require a RIDA are found within div 2 of the *Regional Planning Interests Act 2014* (Qld). The key exemptions include: agreement of the land owner; activities carried out for less than one year; pre-existing (prior to 2014) resource activities).

¹³¹ The chief executive may refer the chief executive of the department administering the Environmental Protection Act or the chief executive of the natural resources department. *Regional Planning Interests Act 2014* (Qld) sch 1. The Assessment Application must be made to the chief executive in the approved form accompanied by a report (i) assessing the resource activity or regulated activity's impact on the area of regional interest; and (ii) identifying any constraints on the configuration or operation of the activity and accompanied by the fee payable. *Regional Planning Interests Act 2014* (Qld) s 29.

¹³² *Regional Planning Interests Act 2014* (Qld) s 28.

¹³³ *Environmental Protection Act 1994* (Qld) div 5.

¹³⁴ *Planning Act 2016* (Qld), Part 5.

¹³⁵ *Regional Planning Interests Act 2014* (Qld) pt 2 div 2.

¹³⁶ *Regional Planning Interests Regulation 2014* (Qld) s 13(1).

¹³⁷ *Regional Planning Interests Act 2014* (Qld) s 34.

future of the town.¹³⁸ There is no similar provision or statutory avenue for mandatory public notification for proposed resource activities to take place on a PAA. However, the CSG Compliance Unit or GC may receive complaints from communities affected by resource activities. Although, as examined in Section 4.5.2 of this chapter, both the CSG Compliance Unit and GC lack statutory powers to require public disclosure of these complaints. Rather, the administrative authorities act in an oversight capacity. For example, the GC may advise the chief executive on an RIDA if:

(a) the application relates to a resource activity in a priority agricultural area, the strategic cropping area or a priority living area; and

(b) either—

(i) the application is notifiable; or

(ii) in the chief executive's opinion, the expected surface impacts of the resource activity are significant.¹³⁹

However, there is no recourse mechanism to hold the chief executive to account, should they not follow the recommendations of the GC.

Once a decision on the application is made by the chief executive of the Department of Planning, Infrastructure and Local Government, they must notify the applicant and affected land owners of the decision, and that decision can be appealed to the Land Court¹⁴⁰ by the applicant or affected land owners aggrieved by the decision.¹⁴¹ The assessing agency may recommend conditions to form part of any RIDA approval.¹⁴² This places a 'standard' on conditions under the RPIA and provides a means for proponents to challenge a condition placed on an approval decision for lack of relevance or reasonableness. The onus of proof is firmly on the applicant for a RIDA to show that an appeal in respect of that RIDA by a land owner or affected land owner should be dismissed.¹⁴³ The RPIA contains a provision requiring the chief executive to ask the GC for advice about any application of a resource

¹³⁸ *Regional Planning Interests Act 2014* (Qld) s 35.

¹³⁹ *Regional Planning Interests Act 2014* (Qld) s 46.

¹⁴⁰ If the application does not concern a resource activity, the Planning and Environment Court hears matters relating the planning and development, protection for environment and coasts, marine parks, conservation areas and more as regulated by the *Planning and Environmental Court Act 2016* (Qld).

¹⁴¹ *Regional Planning Interests Act 2014* (Qld) s 5.

¹⁴² *Regional Planning Interests Act 2014* (Qld) s 42.

¹⁴³ *Regional Planning Interests Act 2014* (Qld) s 72.

activity in a PAA, SCA or a PLA and is either notifiable or for which (in the chief executive's opinion) the 'expected surface impacts are significant'.¹⁴⁴

It remains important for the state to ensure its regulatory authorisation tools maintain a flexible, collaborative principles-based approach to provide effective process with transparency. For example, it is important to ensure efficiency of the GC to perform its important advisory role in a timely manner. However, there is no timeframe imposed on the GC to provide this advice (unlike assessing agency advice under the RPIA, which must be given generally within 20 business days).¹⁴⁵ This creates the risk of delay in the approval process.

The RPIA also states that a RIDA 'attaches to the land despite any change in the land's ownership or occupation'.¹⁴⁶ Noting that the RPIA contains no mechanism for transfer of RIDAs, it appears that the legislative intention of an RIDA is similar to a development approval under the *Planning Act 2016* (Qld) and will 'run with the land' without the requirement for reviewing an RIDA when a land title is transferred to a new registered proprietor.¹⁴⁷ There is a plethora of government agencies managing differing approvals under the RPIA.¹⁴⁸ For example, a PAA will be assessed by the DILGP. However, a PAA that includes one of more regionally significant water sources and SCA is managed by the Department of Natural Resources and Mines and the Department of Energy and Water Supply.¹⁴⁹

As previously discussed, SCLs are evident in a number of UGR producing regions. For example, in Chinchilla, located in the Darling Downs region, where the agricultural industry accounts for 45.5% of all businesses, followed by construction (13.8%) and the rental and real estate industry (7.3%).¹⁵⁰ Currently, there are four key proponents carrying out CSG activities in Chinchilla—Arrow Energy (A\$6 billion), Origin Energy (A\$20 billion—APLNG project), QGC (BG Group) (A\$15 billion—QCLNG project) and Santos. Chinchilla has provided land

¹⁴⁴ *Regional Planning Interests Act 2014* (Qld) s 46.

¹⁴⁵ *Regional Planning Interests Act 2014* (Qld) s 46.

¹⁴⁶ *Regional Planning Interests Act 2014* (Qld) s 58.

¹⁴⁷ Queensland's property law regulatory framework is found within the *Property Law Act 1974* (Qld).

¹⁴⁸ Including the Department of Infrastructure, Local Government and Planning, The Department of Environment and Heritage Protection, Department of Energy and Water Supply and the Department of Natural Resources and Mines.

¹⁴⁹ *Regional Planning Interests Regulation 2014* (Qld) sch 1.

¹⁵⁰ Department of State Development, Infrastructure and Planning, *Darling Downs Regional Plan* (2013) <<http://www.statedevelopment.qld.gov.au/resources/plan/darling-downs/darling-downs-regional-plan.pdf>>.

for 12 QGC (BG Group) and two Origin gas well sites.¹⁵¹ A large area of land in the Upper Condamine region of the Western Downs has been declared as SCL. SCL categorises certain zones or land to protect highly productive or prime cropping areas from both mining and urban development.

While it is a hallmark of a principles-based regulatory system¹⁵² to have broadly drafted legislation to ensure discretion exists to respond to new regulatory issues as they arise, the RIDA process seems to provide a lack of detail and enforceability regarding GC advice to the chief executive and the transparency of RIDA applications and reasoning for development approvals.¹⁵³ Enforceability of GC advice may improve the strength of internal processes of the RIDA system to establish an independent and transparent regulatory process in a legally enforceable framework that may also provide agricultural community assurance.¹⁵⁴ Transparency regarding the RIDA application process by creating mandatory public disclosure processes for proposed resource activity approvals on PAAs may also assist with providing the UG sector with certainty and predictability.

Further, regulatory complexity and duplication, as evident in the three differing governmental agencies¹⁵⁵ with oversight of the RPIA regime, can create an environment for ‘creative compliance’¹⁵⁶ as UGR operators operate in an uncertain regulatory environment. A lack of objective standards and appropriate measurement criteria to determine whether objectives and standards have been met encourages regulatory gaps and the operation of ineffective regulatory tools. British Columbia may provide a potential alternative regulatory framework in its agricultural land zoning regime, the ALR, and collaborative regulatory tool in the form of a MOU between two authorising administrative bodies, the ALC and OGC.¹⁵⁷

¹⁵¹ Queensland Department of Natural Resources and Mines, *Queensland’s Petroleum and Coal Seam Gas 2015-16* (2016) <https://www.dnrm.qld.gov.au/data/assets/pdf_file/0008/1237742/qld-petroleum-coal-seam-gas-2017.pdf>.

¹⁵² Elements of principles based regulatory system is examined in Chapter two of this thesis.

¹⁵³ *Gasfields Commission Act 2014* (Qld) s 7(d).

¹⁵⁴ As established by the *Gasfields Commission Act 2014* (Qld).

¹⁵⁵ The Department of State Development, Infrastructure and Planning; the Department of Natural Resources and Mines; the Department of Environment and Heritage Protection.

¹⁵⁶ Robert Baldwin, *Rules and Government* (Clarendon Press, 1995); Arie Freiberg, *Regulation in Australia* (2017, The Federation Press).

¹⁵⁷ British Columbia, Oil and Gas Commission, *ALR – OGC Delegation Agreement* (2013) <<https://www.bcogc.ca/node/5759/download>>.

4.4.4.2 The Agricultural Land Commission

In its early years, the ALC's main function was that of fine-tuning the set of land parcels included in the ALR.¹⁵⁸ Since then the administration of the ALR has changed, as has the size and composition of some of the lands in the ALR, due to the passing of Bill 24 dividing the ALR in two zones, requiring the ALC to provide more 'flexibility in land use in Zone 2 to allow activities such as food processing and potential oil and gas development'.¹⁵⁹ The use of regional ALR plans and subregional and issue-specific plans are designed with a view to outlining the various land and resource management goals for a particular area based on an assessment of either Zone 1 or Zone 2 areas.¹⁶⁰

Bill 24, the *Agricultural Land Commission Amendment Act 2014*, was enacted in May 2014. According to s 4.2 of the *Agricultural Land Commission Amendment Act 2014*, the ALC now operates via split administration zones categorised as either Zone 1 or Zone 2. Zone 1 includes the Island Panel Region, the Okanagan Panel Region and the South Coast Panel Region. For the purpose of s 4.1(d), Zone 2 consists of:

- a) The geographic area of British Columbia within the boundaries of the following regional districts and regional municipalities, as those boundaries existed on January 1, 2014:
 - i) Regional District of Bulkley-Nechako
 - ii) Regional District of Fraser-Fort George
 - iii) Regional District of Kitimat-Stikine
 - iv) Northern Rockies Regional Municipality
 - v) PRRD
 - vi) Skeena-Queen Charlotte Regional District
- b) All the land in British Columbia that is not within the boundaries of a regional district or a regional municipality, as those boundaries existed on January 1, 2014.¹⁶¹

Zone 2 consequently includes the North panel regions, the Interior and Kootenay, which produces 15% of British Columbia's agricultural output and contains 90% of provincial ALR

¹⁵⁸ Robert A. Androkovich, above n 126, 365; Tracy E. Stobbe, Alison J. Eagle, Geerte Cotteleer and G. Cornelis van Kooten, 'Farmland Preservation Verdicts—Rezoning Agricultural Land in British Columbia' (2011) 59 *Canadian Journal of Agricultural Economics* 555.

¹⁵⁹ *An Act to Amend the Agricultural Land Commission Amendment Act*, SBC 2002 (2nd Sess), c 36.

¹⁶⁰ *Agricultural Land Commission Act*, SBC 2002, c 36, s 4.2.

¹⁶¹ *An Act to Amend the Agricultural Land Commission Amendment Act*, SBC 2002 (2nd Sess), c 36.

lands (4,132,308 ha or 10,211,155.45 ac).¹⁶² Zone 2 contains 85% of the best soils (class 1 to 4), of which 72% are located in the Peace River Region. Land located in Zone 1, representing 10% of the ALR lands (489,391 ha or 1,209,311.5 ac) retains the following standard ALR aims:

- a) preserve agricultural land
- b) encourage farming on agricultural land in collaboration with other communities of interest
- c) encourage local governments, First Nations, the government and its agents to enable and accommodate farm use of agricultural land and uses compatible with agriculture in their plans, by-laws and policies.¹⁶³

In making recommendations, the ALC must give weight to a differing mandate in Zone 1 and Zone 2.¹⁶⁴ In Zone 1, weight must be given to the following values in descending order of priority:

- a) agricultural values, including the preservation of agricultural land and the promotion of agricultural purposes
- b) environmental and heritage values, but only if:
 - i) those values cannot be replaced or relocated to land other than agricultural land, or
 - ii) giving weight to those values results in no net loss to the agricultural capabilities of the area
- c) economic, cultural and social values.¹⁶⁵

In making recommendations to land located in Zone 2, the board must give weight to the considerations set out in ss 4.3(a)–(d), in descending order of priority:¹⁶⁶

- a) the purposes of the commission set out in section 6
- b) economic, cultural and social values
- c) regional and community planning objectives

¹⁶² Green, Arthur, Siobhan McPhee, Aviv Ettya, Britta Rocker and Christina Temenos, *British Columbia in a Global Context* (An Open Education Resource Textbook) (BCcampus OpenEd, 1st ed, 2014) <<https://opentextbc.ca/geography/chapter/6-6-case-studies/>>.

¹⁶³ *Agricultural Land Commission Act*, SBC 2002, c 36, s 6.

¹⁶⁴ *Agricultural Land Commission Act*, SBC 2002, c 36, s 13(4).

¹⁶⁵ *Agricultural Land Commission Act*, SBC 2002, c 36, s 44.

¹⁶⁶ *Agricultural Land Commission Act*, SBC 2002, c 36, s 4.3.

d) other prescribed considerations.¹⁶⁷

Consequently, protection of agricultural land and encouragement of farming is not the first priority of the ALC when making decisions concerning ALR lands in Zone 2. Criterion (d) has particularly raised concerns of threatening food security and food sovereignty due to its broad scope and wording being relied upon to prioritise oil and gas activities taking place on ALR lands to align with economic values.

Six panels are established, representing the six panel regions—Interior, Island, Kootenay, North, Okanagan and South Coast.¹⁶⁸ Each panel has at least two members, including the vice chair from the Panel Region plus all other members of the Commission who reside in the Panel Region.¹⁶⁹ These panel representatives have full authority to make final regulatory decisions in their own Panel Region. The North Panel Region is the hub of UGR activity in British Columbia and holds a significant proportion of ALR lands regulated by the ALC. Subject to s 11.2, whereby the chair of the commission may refer an application to the executive committee, the chair of the commission must refer an application under ss 17(1)(b) or (c) or 17(3), 20(3), 21(2), 29(1) or 30(1) in relation to land located in a panel region to the panel established for the panel region.¹⁷⁰ It must be noted, there has been both criticism and support of the effects of Bill 24 in creating a two-tier zoning system for the ALR.¹⁷¹ However, the creation of regional panels as an act of flexibility and transparency in regulatory decision-making arguably is evident within the ALR system.

The RPIA regime, as it is currently implemented, has an evident lack of consistency and coordination between government agencies, exemptions and an absence of principles-based regulatory approaches applied to the protection of PAAs and SCLs. For example, the DILGP administers the RPI framework; the Department of Energy and Water Supply administers the PGPSA, *Gas Supply Act 2003*¹⁷² and *Energy and Water Ombudsman Act 2006*¹⁷³; the Department of Environment and Heritage Protection administers the Coal Seam Gas Water

¹⁶⁷ *Agricultural Land Commission Act*, SBC 2002, c 36, s 4.

¹⁶⁸ *Agricultural Land Commission Act*, SBC 2002, c 36, s 11.

¹⁶⁹ *Agricultural Land Commission Act*, SBC 2002, c 36, s 11.

¹⁷⁰ *Agricultural Land Commission Act*, SBC 2002, c 36, s 11.1.

¹⁷¹ Nathalie Chambers, *Saving Farmland: The Fight for Real Food* (Rocky Mountains Books, 2015).

¹⁷² The *Gas Supply Act 2003* (Qld) and *Gas Supply Regulation 2007* (Qld) regulate the supply and sale of reticulated natural gas.

¹⁷³ Establishes an independent ombudsman to refer consumer disputes about matters involving energy entities.

Management Policy 2012¹⁷⁴ and administers CSG environmental authorities pursuant to the EPA and ‘make good’ agreements under the WA.

There is no streamlined single entity agricultural system in Queensland, as in the case in British Columbia where non-agricultural use of farmland is solely regulated by the independent ‘single-window’ administrative authorities the ALC and OGC. The OGC and ALC provide regulatory oversight of the UGR sector and agricultural land use without overlapping government departmental mandate. Any non-farm use of ALR land that is not designated in the ALCA as a farm use or identified as a use permitted in an ALR is prohibited, unless that use is otherwise allowed under the ALCA.¹⁷⁵ All oil and gas developments and activities are classified as non-farm uses.¹⁷⁶ Since 1976, the ALC has facilitated oil and gas activities on ALR land by working ‘collaboratively with the industry to develop a process of allowing the non-farm use of land in the ALR for oil and gas activities’.¹⁷⁷ The passing of General Order #4473/76 in 1976, facilitating ‘accommodation’ of the oil and gas industry on ALR lands less than 2 acres (ac), stated:

General application to all land within the designated Agricultural Land Reserve Plan of the Peace River-Liard Regional District to the effect that oil and gas sites and ancillary buildings and equipment occupying an area less than 2 acres, exploratory sites and ancillary buildings and sump pumps, and required road and gathering and flow line rights-of-way be allowed, provided that the well site or exploratory site is rehabilitated to its original or better topographical and soil conditions when abandoned and any pipeline that is constructed for gathering purposes does not unduly restrict the agricultural use of the land and that during construction of the pipeline the topsoil is conserved and replaced on the surface of the trench when the pipeline is backfilled.¹⁷⁸

Therefore, General Order #4473/76 required sites to broadly ‘be restored to a condition as good or better than existed prior to the development’¹⁷⁹ for oil and gas activities on ALR land

¹⁷⁴ The objective of the policy is to encourage the beneficial use of CSG water in a way that protects the environment and maximises its productive use as a valuable resource.

¹⁷⁵ *Agricultural Land Commission Act*, SBC 2002, c 36, s 20 (1).

¹⁷⁶ *Agricultural Land Commission Act*, SBC 2002, c 36, s 20 (1).

¹⁷⁷ Agricultural Land Commission, *Oil and Gas Development in The Agricultural Land Reserve: The Non-Farm Use Of Agricultural Land* (2013)

<<http://www.llbc.leg.bc.ca/public/pubdocs/bcdocs2014/538680/history%20of%20oil%20and%20gas%20activities%20in%20the%20alr%20november%202013.pdf>> 1.

¹⁷⁸ Agricultural Land Commission, *Oil and Gas Development in the Agricultural Land Reserve: The Non-Farm use of Agricultural Land, An Historical Overview of the Agricultural Land Commission’s Position Regarding Oil and Gas Activities in the ALR* (2013) <https://www.alc.gov.bc.ca/assets/alc/assets/about-the-alc/working-with-other-ministries-and-agencies/history_of_oil_and_gas_activities_in_the_alr_november_2013.pdf>.

¹⁷⁹ BCOGC, *Certificate of Restoration Application Manual* (2016) <<http://www.bco.gc.ca/node/12445/download>> 62.

between 1976 and 1995. As this is a broad reclamation requirement, flexibility is encouraged in the review of Schedule B of a surface lease requirements used to assess the reclamation of existing developments and all Schedule B reports are to be submitted to the OGC for review.¹⁸⁰ Provisions of the ALCA include issuing a stop work order, prescribing additional remedies to restore the land, seeking a court order or levying a penalty if the ALCA is contravened and if the soil is not adequately reclaimed or protected.¹⁸¹

Similarly to the RPI regime, the ALC, since 1976, has viewed oil and gas activities in the ALR as being ‘temporary’ in nature and vitally important to the economic wellbeing of British Columbia.¹⁸² Despite this, the ALC acknowledges that:

The ALC has, and continues to view the land use as temporary, albeit likely long term, and its accommodation was predicated on the commitment from industry to restore the land back to an agricultural standard equal to, or better than, that which existed prior to development.¹⁸³

The 2002 Amendment to the ALCA¹⁸⁴ provided the ALC with the ability to delegate decision-making powers to an ‘authority’.¹⁸⁵ This provided the regulatory platform for the ALC to delegate its powers and collaborate with another administrative authority or local government over specified non-farm uses on ALR lands. The ALC has exercised its delegation powers to enter into an agreement with the OGC relating to certain oil and gas non-farm uses in the ALR.¹⁸⁶ However, it is noted that the ALR – OGC Delegation Agreement applies only to ALR land within the Peace River Region. This is differentiation from the Zone 1 and Zone 2 designation granted by the *Agricultural Land Commission Amendment Act 2014*,¹⁸⁷ as the ALR – OGC Delegation Agreement applies only one of the panel regions in Zone 2, the PRRD and the Northern Rockies Regional Municipality.¹⁸⁸

¹⁸⁰ British Columbia, Oil and Gas Commission, *Delegation Agreement for Oil and Gas Uses in the Agricultural Land Reserve Peace River Regional District and Northern Rockies Regional Municipality* (2014) <<https://www.bcogc.ca/node/11130/download>>.

¹⁸¹ *Agricultural Land Commission Act*, SBC 2002, c 36, s 50 -55.

¹⁸² Agricultural Land Commission, *Chapter 5.3 Completing Application Information Details: Agricultural Land Reserve* (2013) <<http://www.bcogc.ca/node/13290/download>>.

¹⁸³ Agricultural Land Commission, *Chapter 5.3 Completing Application Information Details: Agricultural Land Reserve* (2013) <<http://www.bcogc.ca/node/13290/download>> 1.

¹⁸⁴ SBC 2002, c 36.

¹⁸⁵ *Agricultural Land Commission Act* SBC 2002, c 36, s 26(1)(b).

¹⁸⁶ BCOGC, *Certificate of Restoration Application Manual* (2016) <<http://www.bcogc.ca/node/12445/download>> 38.

¹⁸⁷ SBC 2002, c 36.

¹⁸⁸ *Agricultural Land Commission Act* SBC 2002, c 36, s 4.

Applicants submitting applications outside of these areas that impact ALR lands must acquire ALC approval prior to the OGC adjudicating on the application.¹⁸⁹

Consequently, the OGC holds power to make decisions guided by the ALCA and regulations of agricultural lands and oil and gas development.¹⁹⁰ Therefore, the OGC has assumed these powers, through the Delegation Agreement, to make decisions relating to UGR activities on ALR lands according to the purpose of the ALC—which is to preserve agricultural land and encourage and enable farming.¹⁹¹ The aim of the ALR – OGC Delegation Agreement is to encourage, enable and accommodate farming on agricultural land while sustainably developing onshore shale gas activities on ALR land.¹⁹² Ultimately, to minimise impact on agricultural land, any ALR land on which shale gas activities take place must take into account ‘the optimal combination of total area disturbed and location of the activity in relation to current and planned agricultural operations and agricultural capability of the land’¹⁹³ in British Columbia. Such an approach may assist Queensland in planning future CSG activities on agriculture land.

4.4.5 Improving Queensland’s Land Use Zoning to Protect Agricultural Land

In Queensland, as analysed above, the current land use legislation applicable to UGR activities and relevant approvals include the PGPSA, RPIA, GCA, *Planning Act 2016* (Qld), EPA, EPBCA (when triggered regulating matters of national environmental significance) and the *Water Act Qld 2000* (Qld). Petroleum projects are generally required to obtain land access tenure from the Department of Employment, Economic Development and Innovation (DEEDI) and an EA from the Department of Environment and Heritage Protection. In comparison, the comparative regulation of land use applicable to UGR in British Columbia consists of the OGAA,¹⁹⁴ PNGA¹⁹⁵ and ALCA. The OGC and ALR solely regulate and

¹⁸⁹ British Columbia, Oil and Gas Commission, *ALR – OGC Delegation Agreement* (2013) <<https://www.bcogc.ca/node/5759/download>>.

¹⁹⁰ The Oil and Gas Commission is delegated the power as a public officer for the purposes of section 26 (1) (b) of the *Agricultural Land Commission Act*, SBC 2002, c 36. *Agricultural Land Reserve Use, Subdivision and Procedure Regulation*, B.C. Reg. 171/2002, s 39.

¹⁹¹ *Agricultural Land Commission Act* SBC 2002, c 36, s 4.

¹⁹² Agricultural Land Commission, Chapter 5.3 *Completing Application Information Details: Agricultural Land Reserve* (2013) <<http://www.bcogc.ca/node/13290/download>>.

¹⁹³ Madeline Taylor and Susanne Taylor, ‘Agriculture in a Gas Era: A Comparative Analysis of Queensland and British Columbia’s Agricultural Land protection and Unconventional Gas Regimes’ (2016) 22 (3) *Australian Journal of Regional Studies* 459, 469.

¹⁹⁴ SBC 2008, c 36.

¹⁹⁵ RSBC 1996, c 361.

govern land use access and externalities for petroleum activities on ALR land in British Columbia.

An example of the regulatory burden founded in the RPIA is the relationship between the chief executive and the GC. Pursuant to s 46 of the RPIA, the chief executive is required to seek advice from the GC, Queensland's administrative UGR oversight body, about an assessment application if the application relates i) to an activity for which a resource authority is required and where the activity is proposed, ii) in a PAA, a SCA or a PLA and either the application is modifiable or, iii) in the chief executive's opinion, the expected surface impacts of the resource activity are significant.¹⁹⁶

As Queensland's RPI regulatory framework is based on a passive adaptive management regulatory approach, the RPIA is a highly unusual system of land use regulation articulated by its broad RIDA approval scheme for 'areas of regional interests' governed as a purely planning instrument—yet managing competing and differing land use zoning types. It provides broad uninterrupted rules and definitions without interpretation, such as 'coexistence'¹⁹⁷ and 'significant impact',¹⁹⁸ leading to uncertainty of its legislative objectives. This prescriptive regulatory framework for resource activities on PAAs and SCLs has led to unnecessary regulatory gaps and duplication. The result has been regulatory reviews, confusion and uncertainty for agricultural land-holders in Queensland and unnecessarily complex regulatory processes for the petroleum industry.

In comparison, the ALC – OGC Delegation Agreement provides a unique and innovative principles-based regulatory approach to achieve its objective in protecting ALR lands while coexisting with UGR activities.¹⁹⁹ This involves a continuing regulatory discussion between the two regulatory administrative bodies in their regulation and decision-making powers and provides a comparatively more effective regulatory approach based on principles of transparency and simplicity in a sustainable zoning framework ensuing collaboration between UGR in agricultural zoning since the 1970s.

It is important to note the RPI is just one regulatory framework relating to land use coexistence in Queensland. While the RPIA is administered by the Department of Planning

¹⁹⁶ *Regional Planning Interests Act 2014* (Qld) s 46.

¹⁹⁷ *Regional Planning Interests Act 2014* (Qld) s 3(1)(ii).

¹⁹⁸ *Regional Planning Interests Act 2014* (Qld) s 22(b).

¹⁹⁹ British Columbia, Oil and Gas Commission, *ALR – OGC Delegation Agreement* (2013) <<https://www.bcogc.ca/node/5759/download>>.

and Infrastructure, the GC is enacted via the GCA,²⁰⁰ and the Gasfields Commission Review was under the portfolio of the Department of State Development.²⁰¹ The land access laws operating between agricultural landholders and oil and gas companies are administrated by the Department of Natural Resources and Mines based on the LAC, established under the PGPSA, and the CSG Compliance Unit²⁰².

The PGPSA permits petroleum titleholders to take or interfere with underground water in the area of the tenure if the taking or interference happens during the course of or results from the carrying out of another authorised activity for the tenure. There is no limit to the volume of water that may be taken by the petroleum titleholder²⁰³ and underground water taken by a petroleum titleholder is deemed ‘associated water’ which may be used for any purpose and within or outside the area of tenure.²⁰⁴ The allowance of groundwater access and use by titleholder is because ‘water is a by-product and is not used directly in the resource extraction process’.²⁰⁵

When using or accessing groundwater, petroleum titleholders have an obligation to comply with the underground water management framework under the WA. The Office of Groundwater Impact Assessment is established by the WA and regulates UGR water management issues, such as hydraulic fracturing fluids and cumulative groundwater impacts via ‘make good’ arrangements.²⁰⁶ A make good measure for a water bore includes a) ensuring the bore owner has access to a reasonable quantity and quality of water for the bore’s authorised use or purpose, or b) carrying out a plan to monitor the bore, including, for example, by undertaking periodic bore assessments, or c) giving the bore owner monetary or non-monetary compensation for the bore’s impaired capacity.²⁰⁷

The CSG Compliance Unit is administered via the Department of Natural Resources and Mines with the aim of responding to landholders’ complaints and to coordinate landholder groundwater monitoring by landholders themselves through the ‘CSG net’—it is not a unit

²⁰⁰ *Gasfields Commission Act 2014* (Qld); Gasfields Commission, *About Us* (2017) <<http://www.gasfieldscommissionqld.org.au/about-us/>>.

²⁰¹ Department of State Development, *Gasfields Commission Review* (2016) <<https://www.statedevelopment.qld.gov.au/industry-development/gasfields-commission-review.html>>.

²⁰² Queensland Government, *Department of Natural Resources and Mines, Compliance and Enforcement* (2017) <<https://www.ehp.qld.gov.au/management/non-mining/enforcement-compliance.html>>.

²⁰³ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 185(3).

²⁰⁴ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 185.

²⁰⁵ Queensland Government, Department of Environment and Heritage Protection, *Underground Water* (2017) <<https://www.ehp.qld.gov.au/management/non-mining/groundwater.html>>.

²⁰⁶ *Water Act 2000* (Qld) pt 5.

²⁰⁷ *Water Act 2000* (Qld) s 421.

dedicated to overseeing complaints. The role of the GC, in comparison to its counterpart in British Columbia, the OGC, warrants further comparative analysis to determine whether amendments to the GC operation could deliver its desired aim of objective of coexistence with landholders with the onshore UGR industry in Queensland.²⁰⁸

4.5 Petroleum Administrative Authorities in Regulatory Oversight

The OECD recommends the establishment of regulatory oversight institutions ‘to actively provide oversight of regulatory policy procedures and goals, support and implement regulatory policy, and thereby foster regulatory quality’.²⁰⁹ The role of any sector-specific administrative authority is to implement the regulatory framework in assisting the state to achieve its specified objectives. In Queensland, the current policy objective to create an effective petroleum regulatory regime is stated as:

Maximising the gas sector’s potential, supplying gas to households and business users in sufficient quantities at affordable prices and being internationally competitive, while balancing the needs of landholders, local communities and traditional owners and maintaining environmental safeguards.²¹⁰

Yet, when public powers are delegated, there is a need to create controls and limits. As has been recognised by the Queensland Government in its *2016 Gas Supply and Demand Action Plan Discussion Paper*:

Providing accurate, evidence-based information to the community and key stakeholders will help build the trust needed to support future industry development. A key aspect of this may be to create an independent ‘single source of truth’ that gathers information, reports on industry performance and translates information into an easy-to-understand and easy-to-use format.²¹¹

An administrative authority operates to coordinate the development, management and regulation of land uses, approvals and development of a state’s resources. Therefore, a single comprehensive and dedicated administrative authority with clear and consistent regulatory mechanisms to interact with other administrative bodies is essential to develop inter-governmental and inter-ministerial oversight of UGR licences, contracts and operations on agricultural land.

²⁰⁸ *Gasfields Commission Act 2013* (Qld) s 3.

²⁰⁹ OECD, *Recommendation of the Council on Regulatory Policy and Governance* (2012) <<https://www.oecd.org/governance/regulatory-policy/49990817.pdf>> 9.

²¹⁰ Queensland Department of Natural Resources and Mines, above n 20, 2.

²¹¹ Queensland Department of Natural Resources and Mines, above n 20, 9.

4.5.1 Comparison of Unconventional Gas Resource Oversight Agencies to Achieve Objectives

The GC was enacted via the GCA from 2012 onwards as a response to perceived conflicts of agricultural land uses and landholders and UGR activities in Queensland.²¹² It was intended that the GC would ‘manage and improve the sustainable coexistence of landholders, regional communities and the onshore gas industry in Queensland’.²¹³ The GC operates as an independent oversight administrative body to facilitate complaints of landholders and advise relevant ministers in certain circumstances:

(a) facilitating better relationships between landholders, regional communities and the onshore gas industry; (b) reviewing the effectiveness of government entities in implementing regulatory frameworks that relate to the onshore gas industry; (c) advising Ministers and government entities about the ability of landholders, regional communities and the onshore gas industry to coexist within an identified area.²¹⁴

The primary role of the GCA lies in its facilitation of relationships between landholders and UGR activities. The GC consists of one commissioner, who acts as chair, and up to six part-time commissioners with differing portfolios including communications, policy and engagement and corporate services.

The delivery of the *Independent Review of the Gasfields Commission Queensland and Associated Matters (Independent Review of the Gasfields Commission)* has led to a reorganisation of the GC, with commissioners formerly having positions in the Queensland Farmers Federation²¹⁵ and Cotton Australia. However, one commissioner remains the chief technical officer to APPEA.²¹⁶

According to the GC, it has facilitative powers and certain specific powers, such as the power to compel onshore gas companies (and their contractors) and landholders to provide the GC with the information or documents required for the effective and efficient carrying out of the Commission’s functions.²¹⁷ However, it is clear the GC does not hold any regulatory power

²¹² Scott, Robert P *Independent Review of the Gasfields Commission Queensland and Associated Matters* (Department of State Development (Qld), July 2016)
<<https://www.statedevelopment.qld.gov.au/resources/report/gasfields-commission-review-report.pdf>>.

²¹³ Scott, *ibid*, 5.

²¹⁴ *Gas fields Commission Act 2013* (Qld) s 7.

²¹⁵ The new Commission Chair, Ruth Wade, was appointed in 2017.

²¹⁶ Rick Wilkinson is a Senior Associate with EnergyQuest, an energy consultancy and provides technical advice as the Chief Technical Officer for the Australian Petroleum Production and Exploration Association (APPEA) and has been a GC commissioner since 2013.

²¹⁷ *Gas fields Commission Act 2013* (Qld) s 26.

nor does it adopt a role ‘of being an advocate for landholders, nor of addressing individual cases, neither of which (is) required by statute, both of which were, and still are, expected by many landholders’.²¹⁸ Criticisms of the GC and its independence raised by landholders are:

- the Commission does not represent landholders but represents the CSG industry and government
- commissioners are not members of landholder peak bodies yet one commissioner is a member of APPEA
- some commissioners are conflicted in the discharge of their duties
- when issues are raised with the Commission the response is often in a noncommittal ‘form’ letter and advice is not forthcoming.²¹⁹

Therefore, there is a lack of understanding between the GC, its ‘powers’ and its tangible ability to aid landholders with UGR activities on their agricultural land. The GC does not hold regulatory powers to investigate, mediate, arbitrate or make binding decisions concerning individual disputes between agricultural landholders and UGR activities. Therefore parts of the GCA²²⁰ provide an avenue for review of government entities policies and quasi-regulation of the UGR sector. However, the other stated purposes of the GCA provide evidence of a more general role of providing advice and aid to the relevant ministers and government. It does not explicitly state a built-in policy adjustment governance and regulatory framework.

This creates a lack of ‘regulatory teeth’ and has given rise to stakeholders raising issues of confusion about the roles and responsibilities of the GC, the lack of awareness about the work of the Commission behind the scenes, the lack of an independent and accessible source of information for landholders about dealing with CSG companies, and the need for a better way to reach agreement and deal with disputes about conduct and compensation than having to resort to court.²²¹ This led to the creation of the Terms of Reference for an independent review into the GC and its effectiveness in relation to managing multiple interests between the UGR industry, regional communities and landholders.²²²

²¹⁸ Scott, *above* n 212, 28.

²¹⁹ Ibid.

²²⁰ *Gas fields Commission Act 2013* (Qld) s 7.

²²¹ Scott, *above* n 212, 5.

²²² Department of State Development, Gasfields Commission Independent Review, *Terms of Reference* (2016) <<https://www.statedevelopment.qld.gov.au/resources/terms-of-reference/terms-of-reference-gfcq-review.pdf>>.

Based on perceived inadequacies, on 18 December 2015, the Queensland Government commissioned an independent review of the GC. This review was managed by the Department of State Development with Robert Scott appointed as the independent reviewer. The purpose of the review, as outlined in the terms of reference, was to:

- (a) evaluate whether the GC is achieving its purpose
- (b) evaluate whether the functions given to the GC are sufficient to allow it to effectively manage disputes about land access and other disputes between resource companies and landholders
- (c) evaluate whether the functions given to the GC should include a role in managing or facilitating responses to public health and community concerns arising from onshore gas activities
- (d) investigate whether an alternative model, such as an independent Resources Ombudsman, is needed to provide a mechanism for dispute resolution between resource companies and landholders
- (e) investigate whether harmonisation between the CSG Compliance Unit and the GC would provide efficiencies and improve dispute resolution between resource companies and landholders
- (f) any other relevant matters the reviewer considers appropriate.²²³

On 1 December 2016, the Minister for State Development and Minister for Natural Resources and Mines announced the release of the independent report and the government response. The government's response detailed a range of measures to be adopted based on the review report including:

- a) a renewed focus by the Commission on extension and communication activities to improve the availability of information on the CSG industry particularly for landholders
- b) establishing a Land Access Ombudsman to deal with disputes between landholders and resource companies in relation to CCAs
- c) structural and operational changes to the GC that will enable it to work more effectively
- d) developing in consultation with stakeholders improved approaches to negotiation and alternative ways to resolve land access disputes.²²⁴

²²³ Department of State Development, Gasfields Commission Independent Review, *Terms of Reference* (2016) <<https://www.statedevelopment.qld.gov.au/resources/terms-of-reference/terms-of-reference-gfcq-review.pdf>>.

Among the independent review recommendations was a refocus to ‘be the trusted advisor to government and stakeholder representative bodies on strategic issues including the status of the coexistence model’.²²⁵ The review also recommended an overhaul of the dispute resolution framework to establish arbitration as an alternative to Land Court litigation to provide a simpler and legally binding resolution for both parties and established an independent dispute relation body to assist with disputes about CCAs.²²⁶

Further, the harmonisation of the GC and CSG was called for via more effective communication, strategic functions and the CSG Compliance Unit to be equipped with legal powers to issue penalty infringement notices for breaches of the mandatory provisions of the LAC pursuant to the PGPSA.²²⁷ In delivering the final review, it was noted there was ‘significant opportunities for improvement in the overall operation of the GC and in the perception of it by a large number of stakeholders particularly landholders...(including) the failure to adequately address some of its statutory functions; and the sub-optimal strategic and operational planning and reporting’.²²⁸ There has not been any substantive legislative amendment to the GCA since the review nearly a year after its report was released.²²⁹ It is evident Queensland has been slow to react to the mounting criticism and concern relating to the operation and purview of the GC. The scope of the GC is to manage and facilitate complaints by landowners in relation to CSG activities. The review noted the Commission had reported over 90 enquiries from 44 landlords (2014–2015), but had failed to demonstrate how enquiries were managed and whether the enquiries were resolved.²³⁰

In comparison, the OGC in British Columbia has a statutory requirement to close out and resolve enquiries and complaints and can refer complaints to the Oil and Gas Appeal Tribunal, an independent legal body that reviews decisions, orders, penalties and offences made by the OGC within 30 days.²³¹ The OGC has a clear and transparent mandate to facilitate,

²²⁴ Gasfields Commission Queensland, *Annual Report 2016-2017* (2017) <<http://www.gasfieldscommissionqld.org.au/resources/documents/Annual%20Report%202016-17%20FINAL%20-%20ONLINE.pdf>>.

²²⁵ Scott, above n 212, 22.

²²⁶ Ibid, 46.

²²⁷ Ibid, 6.

²²⁸ Queensland Department of State Development, *Government Response to the Independent Review of the Gasfields Commission* (2016) <<https://www.statedevelopment.qld.gov.au/resources/report/government-response-to-the-independent-review.pdf>>.

²²⁹ Queensland Department of State Development, *ibid.* <<https://www.statedevelopment.qld.gov.au/resources/report/government-response-to-the-independent-review.pdf>>.

²³⁰ Scott, above n 212.

²³¹ *Oil and Gas Activities Act*, SBC 2008, c 36, s 70.

evaluate and report on the outcomes of complaints and enquiries. The operation of the OGC is reviewed regularly by the Canadian Standards Association and this formal review process is publically available for review and comment. The operation of the OGC and the GC are starkly different when referenced to their respective abilities to regulate and resolve conflicts.

At present, multiple stakeholders receive and handle complaints from landholders, including the CSG Compliance Unit in the Department of Natural Resources and Mines, the Department of Environment and Heritage Protection, the GC and local governments. As acknowledged by the Queensland Government, 'this can result in frustration amongst members of the community due to the lack of clarity regarding who to contact to ensure their concerns are addressed, as well as a dispersion of data regarding community interactions with government'.²³²

In 1998, the OGC was enacted in British Columbia to substantially increase production of UGR and to explore the Western Canadian Sedimentary Basin.²³³ The necessity for more efficient regulation was stressed by the 1998 Golder Associates study, as highlighted by the recommendation that:

The key element in terms of comprehensive, long-term progress is establishment of a highly committed group of Government and Industry representatives working cooperatively toward achievable goals. The Provincial Government must recognize the regional uniqueness of the current situation and allow those responsible for implementation free scope in identifying both areas of concerns and probable solutions.²³⁴

Therefore, the OGC was enacted to simplify approvals required for oil and gas exploration and development, avoiding overlapping legislation, inconsistent legislative application and an overly complex approval processes. The OGC, staffed with a group of officers dedicated to the consideration of applications necessary for upstream activity, with single-window authority over all of the principal approvals required for oil and gas development, was the means to achieve a streamlined approval process.

²³² Queensland Department of Natural Resources and Mines, above n 20 16.

²³³ Murray Rankin, Sandy Carpenter, Patricia Burchmore and Christopher Jones, 'Regulatory Reform in the British Columbia Petroleum Industry: The Oil and Gas Commission' (2000) 38 *Alberta Law Review* 143.

²³⁴ Golder Associates Ltd., Report on Regulation of the Oil and Gas Industry in British Columbia (February 1998) [unpublished].

The result of this policy objective was a MOU between government and the oil and gas industry, signed in February 1998.²³⁵ The MOU provided for an Oil and Gas Initiative, the goal of which was to ‘make British Columbia one of the most attractive places in North America for oil and gas investment’.²³⁶ Once the MOU was signed, it was quickly determined that the best means of streamlining the regulatory approval process would be to allow all essential approvals to be available from a ‘single window’. According to Rankin et al, this ‘allowed greater control by government in an industry which has a significant impact on government revenue and public policy’.²³⁷

The stated purposes of the OGC are to regulate oil and gas activities in British Columbia in a manner that:

- i) Provides for the sound development of the oil and gas sector, by fostering a healthy environment, a sound economy and social well-being;
- ii) Conserves petroleum and natural gas resources;
- iii) Ensures safe and efficient practices; and
- iv) Assists owners of petroleum and natural gas resources to participate equitably in the production of shared pools of petroleum and natural gas.²³⁸

The OGC holds the power to issue key approvals in relation to oil and gas activities and pipelines.²³⁹ Further, the OGC holds plenary powers relating to heritage, environmental and water management from the *Forest Act*,²⁴⁰ *Forest Practices Code of British Columbia Act*²⁴¹ (the ‘Forest Practices Code’), *Heritage Conservation Act*,²⁴² *Land Act*,²⁴³ *Environmental Management Act*²⁴⁴ and *Water Sustainability Act*.²⁴⁵

According to s 11 of the OGAA, the OGC may establish and appoint an advisory committee of the Commission. In general, the advisory committee has a mandate to assist the

²³⁵ British Columbia, Oil and Gas Commission, *Delegation Agreement for Oil and Gas Uses in the Agricultural Land Reserve Peace River Regional District and Northern Rockies Regional Municipality* (2014) <<https://www.bcogc.ca/node/11130/download>>.

²³⁶ Rankin et.al., above n 233, 146.

²³⁷ Ibid, 147.

²³⁸ *Oil and Gas Activities Act*, SBC 2008, c 36, s 4.

²³⁹ *Oil and Gas Activities Act*, SBC 2008, c 36, s 17.

²⁴⁰ RSBC 1996, c 157.

²⁴¹ RSBC 1996, c 159.

²⁴² RSBC 1996, c 187.

²⁴³ RSBC 1996, c 245.

²⁴⁴ SBC 2003, c 53.

²⁴⁵ SBC 2014, c 15.

Commission in discharging its responsibility to consider or inquire into any matter and to report its findings and advice to the board.²⁴⁶ Division 2 of the OGAA created the Oil and Gas Appeal Tribunal to create an appellate tribunal system for land holders or any eligible persons to review OGC decisions.²⁴⁷ Eligible persons have the ability to request a review of specified administrative decisions and permitting decisions.²⁴⁸ Requests for review must be made within 30 days of the determination in question and reviews are carried out by designated officials in the commission. The Oil and Gas Appeal Tribunal provides appeal process systems, independent of the commission, whereby appeals will be heard and decided.

Further, the SRB of British Columbia assists in resolving disputes between landowners and companies that require access to private land to explore for, develop or produce Crown-owned subsurface resources such as oil, gas, coal, minerals and geothermal.²⁴⁹ The SRB provides another avenue of independent appeals and decision-making relating to compensation, compliance, terms of entry onto land and rent renegotiation.

Pursuant to the EPMR,²⁵⁰ the British Columbian Government has established environmental objectives. The OGC must consider the Government's environmental objectives in deciding whether or not to authorise an oil and gas activity with respect to 'water, riparian values, wildlife and wildlife habitat and old-growth management areas, resource features and cultural heritage resources'.²⁵¹ The board of the OGC has the power to make regulations under the OGAA, primarily of a technical nature, and has exercised its regulatory power to make regulations related to pre-application consultation and notification requirements, geophysical exploration (seismic activities), drilling and production activities, pipelines and LNG facilities, levies and security. The commission also has the power to grant approvals under the designated provincial statutes, including the *Environmental Management Act*,²⁵² *Forest Act*,²⁵³

²⁴⁶ *Oil and Gas Activities Act*, SBC 2008, c 36, s 11.

²⁴⁷ *Oil and Gas Activities Act*, SBC 2008, c 36, s 22(2).

²⁴⁸ *Oil and Gas Activities Act*, SBC 2008, c 36, s 70.

²⁴⁹ Surface Rights Board of British Columbia, *Introduction* (2014) <<http://www.surfacerightsboard.bc.ca/>>.

²⁵⁰ CRC 2010, c 435.

²⁵¹ *Oil and Gas Activities Act*, SBC 2008, c 36, s 25(1).

²⁵² SBC 2003, c 53.

²⁵³ RSBC 1996, c 157.

Heritage Conservation Act,²⁵⁴ *Land Act*²⁵⁵ and *Water Act*.²⁵⁶ To do so, the OGC may exercise its power to conduct inspections and audits.²⁵⁷

On finding a contravention, the OGC may exercise a further new power to impose monetary penalties, referred to as ‘administrative penalties’ in the OGAA. The OGC may impose monetary penalties for any contraventions of the OGAA.²⁵⁸ The monetary penalty provisions are backed up with substantial civil liability sanctions. For example, the OGC may enforce a penalty by registering it with the Supreme Court of British Columbia and such registration is deemed to be a judgment of the court for the payment of a debt. The OGC may also make any orders it views as necessary to mitigate public safety risks. As a consequence of these regulatory powers, the OGC has far more regulatory reach with adequate ‘teeth’ to address concerns pertaining to UGR development on agricultural lands in Canada.

4.5.2 Regulatory Power

Queensland and British Columbia have adopted different regulatory models to manage land use conflicts arising from the development of UG. The analysis of different administrative bodies demonstrates the differing aims, scope and regulatory powers invested in Queensland’s and British Columbia’s regulatory agency models. Having compared the differences via functional analysis, it is now relevant to turn attention to whether British Columbia offers appropriate alternative regulatory tools effective in managing conflicts of interest and whether these regulatory tools could be applied to Queensland.

A comparative analysis of the GC in Queensland and the OGC in British Columbia reveals stark differences in regulatory powers. A myriad of powers is granted to the OGC acting as a ‘single-window regulatory agency with responsibilities for overseeing oil and gas operations in British Columbia, including exploration, development, pipeline transportation and reclamation’.²⁵⁹ Further, the core role of the OGC includes:

Reviewing and assessing applications for industry activity, consulting with First Nations, ensuring industry complies with provincial legislation and cooperating with partner agencies. The public interest is protected through the objectives of ensuring

²⁵⁴ RSBC 1996, c 187.

²⁵⁵ RSBC 1996, c 245.

²⁵⁶ RSBC 1996, c 483.

²⁵⁷ *Oil and Gas Activities Act*, SBC 2008, c 36, ss 57- 62.

²⁵⁸ *Oil and Gas Activities Act*, SBC 2008, c 36, ss 63 – 68.

²⁵⁹ BC Oil and Gas Commission, *Oil and Gas Activity Operations Manual Version 1.14* (2017) <<http://www.bcogc.ca/node/13274/download>> 2.

public safety, protecting the environment, conserving petroleum resources and ensuring equitable participation in production.²⁶⁰

Consequently, the OGC is involved in each step of the UGR activity cycle ranging from consultation with industry, applications, permits review and assessment, compliance and inspection and site reclamation and restoration.

In contrast, the GC, as a comparable statutorily-enacted body, has a broad and ill-defined advisory role to facilitate ‘better relationships’ and liaise with landholders, review the effectiveness of government entities and advise and make recommendations to ministers and government entities about the onshore gas industry. In this respect, it is evident the GC has an advisory ‘arm’s length’ role to the Queensland Government.²⁶¹

A strong compliance approach, beyond monitoring, allows the OGC to take specific action and enact particular powers—for example, in relation to recovery of orphan sites and management of technical and safety issues—to align policy with overall government environmental standards. The OGC has been mandated to act as a ‘policy architect’, which includes clear lines of responsibility within the policy and legislative structure from the commission to the local governments.

In Queensland, the GC acts as an advisory body only and does not have the same range of powers as the OGC, particularly in compliance, which means it can only act in a limited regulatory fashion. The OGC enjoys the ability to act as a legislative and regulatory ‘watchdog’ based on a principles-based regulatory administrative authority, where the Commission is the architect of compliance regulation and policy variations. The circumscribed and limited role of the GC appears to underline the Queensland Government’s tacit support for the resource sector as the key state economic driver for the state.

This assumption seems well-founded, given the rate at which new UGR wells are drilled—1,563 wells were drilled in 2013–2014 and 700 wells in 2015–2016, amounting to 5,127 wells producing CSG²⁶²—and the limited regulatory changes to the PGPSA and the GC purview.

²⁶⁰ BC Oil and Gas Commission, *ibid*, 2.

²⁶¹ Gasfields Commission, *Commission independence highlighted at estimates hearing* (18 July 2013) <<http://www.gasfieldscommissionqld.org.au/resources/gasfields/media-releases/commission-independence-highlighted-at-estimates.pdf>>.

²⁶² Queensland Government, Department of Natural Resources and Mines, *Queensland’s Petroleum and Coal Seam Gas 2015-2016* (2017) <https://www.dnrm.qld.gov.au/__data/assets/pdf_file/0008/1237742/qld-petroleum-coal-seam-gas-2017.pdf>.

As stated by Senator Canavan in welcoming the increase in production from Australia Pacific LNG at its Curtis Island facility near Gladstone:

As the third Queensland LNG project to begin production from a second train, the \$25 billion APLNG project demonstrates the extent to which the Australian resources sector underpins the national economy and drives growth.²⁶³

Similar to Queensland, British Columbia has also recognised the economic future and importance of shale gas to ‘fuelling its economy’.²⁶⁴ However, the OGC starts with an assumption that energy is a competing land use interest on arable land requiring government support and protection. As stated by Minister Rich Coleman, Leader of the Opposition in the British Columbia Legislative Assembly:

British Columbia has the potential to be a global leader in environmentally responsible natural gas development and export. We are building partnerships and collaborating with other jurisdictions to ensure B.C.’s natural gas policies and programs provide efficient environmental assessment and regulatory oversight.²⁶⁵

This strong compliance and regulatory process is managed by the OGC and close collaboration with other statutory bodies responsible for other natural resources, such as the ALC and the Forest Appeals Commission.²⁶⁶

The GC, as governed by the GCA, was enacted to improve ‘the sustainable coexistence of landholders, regional communities and the onshore gas industry in Queensland’.²⁶⁷ The key functions of the GC are facilitating better relationships between landholders, regional communities and the onshore gas industry; reviewing the effectiveness of government entities in implementing regulatory frameworks that relate to the onshore gas industry; and advising ministers and government entities about the ability of landholders, regional communities and the onshore gas industry to coexist within an identified area.²⁶⁸ However, unlike the OGC in British Columbia, which is granted the power to regulate and make approvals of UGR licenses and access the ALR lands, the powers of the GC are to review government entities,

²⁶³ Matt Canavan, *Queensland’s LNG sector driving investment and jobs* (10 October 2016) <<http://www.minister.industry.gov.au/ministers/canavan/media-releases/queensland%E2%80%99s-lng-sector-driving-investment-and-jobs>>.

²⁶⁴ British Columbia Ministry of Energy and Mines, *Natural Gas Strategy: Fuelling B.C.’s Economy for the Next Decade and Beyond* (2012) <http://www.gov.bc.ca/ener/popt/down/natural_gas_strategy.pdf>.

²⁶⁵ Ibid.

²⁶⁶ *Ministry of Forests and Range Act*, RSBC 1996, c300.

²⁶⁷ *Gasfields Commission Act 2013* (Qld) s 3.

²⁶⁸ *Gasfields Commission Act 2013* (Qld) s 7.

advise ministers and government departments, make recommendations and obtain advice on UGR activities and the effectiveness of regulatory frameworks.²⁶⁹

The limited functions and transparency of the GC have been called into question and examined in the *Independent Review of the Gasfields Commission* in 2016.²⁷⁰ The review led to a number of recommendations, including provision for penalty infringement notices under the provisions of the LAC and PGPSA. The review states this recommendation would potentially increase agricultural landholders' 'confidence' in the regulation of UGR, compliance and enforcement of the GC and the CSG Compliance Unit.²⁷¹ Increased regulatory scope and powers of the GC and CSG Compliance Unit to issue penalty notices would arguably create a more streamlined 'single window' approach to UGR regulation, in a similar fashion to the OGC in British Columbia.

The OGAA of British Columbia confers the regulation of oil and gas activities to the OGC to grant approvals, enforce compliance and oversee technical safety. The mandated purpose and aims of the OGC are outlined as follows:

- a) To regulate oil and gas activities in British Columbia in a manner that:
 - i) provides for the sound development of the oil and gas sector, by fostering a healthy environment, a sound economy and social well-being
 - ii) conserves petroleum and natural gas resources
 - iii) ensures safe and efficient practices
 - iv) assists owners of petroleum and natural gas resources to participate equitably in the production of shared pools of petroleum and natural gas.²⁷²

British Columbia's approach has broad authority under a wide variety of Acts and regulations to regulate oil and gas activities and operational standards for oil and gas activities.

The OGC, a Crown Corporation and agent of the Crown, collaborates and regulates diverse stakeholders, including First Nations and the petroleum industry, 'to provide efficient and effective oversight of oil and gas activity'.²⁷³ The OGAA mandates the OGC to regulate the oil and gas industry to ensure sound development of British Columbia's oil and gas resources.

²⁶⁹ *Gasfields Commission Act 2013* (Qld) s 7.

²⁷⁰ Scott, above n 212.

²⁷¹ Ibid.

²⁷² *Oil and Gas Activities Act*, SBC 2008, c 36, s 4.

²⁷³ British Columbia Ministry of Energy and Mines, *Natural Gas Strategy: Fuelling B.C.'s Economy for the Next Decade and Beyond* (2012) <http://www.gov.bc.ca/ener/popt/down/natural_gas_strategy.pdf> 11.

Accordingly, the OGC is responsible for developing processes to accept and review industry applications related to oil and gas activities and/or pipeline activities (falling within provincial jurisdiction). To approve such applications, the OGC must ensure that the application is in the ‘public interest’, having regard to environmental, economic and social effects of the activities.²⁷⁴

The Oil and Gas Appeal Tribunal was established by the OGCA.²⁷⁵ Eligible persons have the ability to request a review of specified administrative decisions and permitting decisions.²⁷⁶ Requests for review must be made within 30 days of the determination in question and reviews are carried out by designated officials in the commission. The Oil and Gas Appeal Tribunal provides appeal process systems independent of the OGC.

The Delegation Agreement encourages, enables and accommodates farming on agricultural land while sustainably developing onshore shale gas activities on ALR land.²⁷⁷ Ultimately, to minimise impact on agricultural land, any ALR land on which shale gas activities take place must take into account ‘the optimal combination of total area disturbed and location of the activity in relation to current and planned agricultural operations and agricultural capability of the land’²⁷⁸ in British Columbia. The OGC reviews applications and, once approved, inspects and monitors construction, operation and reclamation. The OGC is also responsible for reviewing and approving land tenure, water use, forest harvesting, waste disposal and potential heritage impacts.

Queensland has a decentralised community engagement and administrative authorities to receive and handle complaints from the community (including the CSG Compliance Unit in the Department of Natural Resources and Mines, the Department of Environment and Heritage Protection, the GC and local governments). Due to the ‘frustration amongst members of the community’,²⁷⁹ the *Queensland Gas Supply and Demand Action Plan Discussion Paper*

²⁷⁴ Charles Bois and Sarah Hansen, ‘Regulatory and Legal Issues Respecting Coalbed Methane Development in British Columbia’ (2008) 45 *Alberta Law Review* 631.

²⁷⁵ *Oil and Gas Activities Act*, SBC 2008, c 36, s 19.

²⁷⁶ *Oil and Gas Activities Act*, SBC 2008, c 36, s 70.

²⁷⁷ British Columbia, Oil and Gas Commission, *ALR – OGC Delegation Agreement* (2013) <<https://www.bcogc.ca/node/5759/download>>.

²⁷⁸ Madeline Taylor and Susanne Taylor, above n 193, 469.

²⁷⁹ Queensland Department of Natural Resources and Mines, above n 20, 16.

recommends the establishment of a central body and centralised approach to collaborate with community.²⁸⁰

British Columbia's UGR policy has developed in response to similar technical, stakeholder conflict and regulatory challenges to Queensland. The OGC also presents Oil and Gas Land Use reports periodically to provide transparency to industry, First Nations and landholders of surface area used for UGR surface activities, and documents the percentage of change from the prior reporting period. No such reporting system exists in Queensland. A detailed comparison of the UGR Administrative Bodies in Queensland and British Columbia is illustrated in Table 2. Importantly, it demonstrates the fundamental differences in the policy scope between the GC of Queensland and OGC in British Columbia, particularly in terms of the law-making and regulatory powers.

Table 2: Comparison of Unconventional Gas Administrative Bodies in Queensland and British Columbia

Factors	GC (Queensland)	OGC (British Columbia)
Legal Powers	The remit of the GC is as an advisory and facilitating oversight power to the State Government.	The purpose of the OGC is to regulate oil and gas activities in British Columbia, inter alia: (a) provides for the sound development of the oil and gas sector, by fostering a healthy environment, a sound economy and social wellbeing (b) conserves petroleum and natural gas resources (c) ensures safe and efficient practices (d) assists owners of petroleum and natural gas resources to participate equitably in the production of shared pools of petroleum and natural gas. ²⁸¹
Policy Scope	The GC has the authority to review (but no decision-making powers): (a) the effectiveness of government entities in implementing regulatory	The OGC is an agent of the government and has the legal capacity to pass resolutions relating to regulations; grant permits for oil and gas activities;

²⁸⁰ Ibid.

²⁸¹ *Oil and Gas Activities Act*, SBC 2008, c 36, s 3.

	<p>frameworks that relate to the onshore gas industry</p> <p>(b) advising ministers and government entities about the ability of landholders, regional communities and the onshore gas industry to coexist within an identified area</p> <p>(c) in response to requests for advice from the chief executive under the RPIA about assessment applications under that Act, advising that chief executive about the ability of landholders, regional communities and the resources industry to coexist within the area the subject of the application</p> <p>(d) making recommendations to the relevant minister that regulatory frameworks and legislation relating to the onshore gas industry be reviewed or amended</p> <p>(e) making recommendations to the relevant minister and onshore gas industry about leading practice or management relating to the onshore gas industry</p> <p>(f) advising the minister and government entities about matters relating to the onshore gas industry.²⁸²</p>	<p>reviewing and assessing applications for industry activity; consulting with First Nations; ensuring industry complies with provincial legislation ‘ in the public interest’ having regard to environmental, economic and social effects’.²⁸³</p>
Stakeholder Collaboration	<p>The GC has the function of facilitating better relationships between landholders, regional</p>	<p>The OGC may make regulations respecting consultation and notifications for the purposes of authorisation</p>

²⁸² *Gasfields Commission Act 2013* (Qld) s 7.

²⁸³ *Oil and Gas Activities Act*, SBC 2008, c 36, s 4.

	communities and the onshore gas industry ²⁸⁴ (no power to make binding regulations or recommendations).	respecting environmental protection and management and oil and gas permits. ²⁸⁵ The OGC may ‘negotiate and enter into agreements with any person, including the government of British Columbia, the government of Canada, the government of another province or of a territory, a local government, a First Nation or with an official or agency of any of them’. ²⁸⁶ The purposes of the OGC also include: (a) to provide for effective and efficient processes for the review of applications for permits and to ensure that applications that are approved are in the public interest having regard to environmental, economic and social effects (b) to encourage the participation of First Nations and aboriginal peoples in processes affecting them (c) to participate in planning processes (d) to undertake programs of education and communication to advance safe and efficient practices and the other purposes of the commission. ²⁸⁷
Appellate and Review Procedures	There is no review or appellate functions of GC advice, since all advice is non-binding and advisory only.	The OGC Oil and Gas Appeal Tribunal is established to hear appeals. An eligible person may appeal to the appeal tribunal, of a decision made under s 71, for a review of an OGC determination. ²⁸⁸
Centralised and Integrated Administrative Functions	The GC operates as an oversight agency for UGR activities in Queensland in conjunction with the CSG Compliance Unit and Office of	The OGC represents a single framework to regulate all oil and gas activities and regulations. Regulatory responsibility is delegated to the Commission through the

²⁸⁴ *Gasfields Commission Act 2013 (Qld)* s 7.

²⁸⁵ *Oil and Gas Activities Act*, SBC 2008, c 36, s 22.

²⁸⁶ *Oil and Gas Activities Act*, SBC 2008, c 36, s 6.

²⁸⁷ *Oil and Gas Activities Act*, SBC 2008, c 36, s 4.

²⁸⁸ *Oil and Gas Activities Act*, SBC 2008, c 36, s 72.

	Groundwater Impact Assessment. It has no decision-making powers or regulatory responsibility.	OGAA and includes specified enactments under the <i>Forest Act</i> , <i>Heritage Conservation Act</i> , <i>Land Act</i> , <i>Environmental Management Act</i> and <i>Water Act</i> .
Regulatory Influence of Agricultural Land Use	The GC acts independently and without any delegation or MOU. The RPI Reg regime is administered by the DILGP.	The ALC has exercised power to enter into an agreement with the OGC relating to certain oil and gas non-farm uses within the ALR in the Peace River Region. This means the OGC acts as the ALC and makes decisions guided by the ALCA and regulations.

Source: Compiled by author.

Table 2 underlines the conclusion that Queensland's GC is an oversight and facilitative body only, in comparison with British Columbia's OGC with regulatory, appellate and policymaking powers. It must be noted, UGR regulatory powers are vested solely in the Natural Resources Minister and the Department of Natural Resources and Mines, with oversight and facilitation only powers vested in a number of administrative bodies in Queensland, namely the GC, CSG Compliance Unit and OGIA.

4.5.3 Managing Conflicting Interests

Queensland's current RPI Reg regime requires individual landowners to raise land use conflicts. To test the regulation, an agricultural landholder must lodge a formal complaint with one of the oversight bodies (the GC, CSG Compliance Unit or OGIA). If a matter is further disputed, a landholder must seek a determination from the Land Court as a planning exercise to determine whether a UGR activity is in breach of an RIDA. The emphasis is firmly on the individual landowner to prove a case.

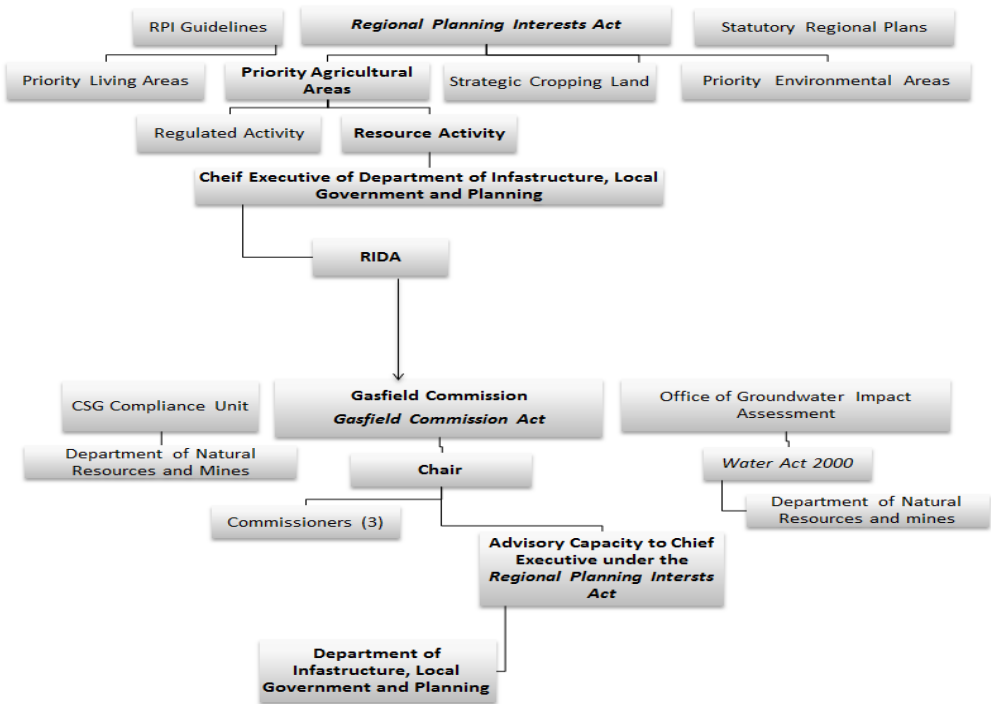
British Columbia favours asserting greater state oversight and control through regulatory checks and balances beginning from agricultural land zoning in the ALR through to the ALR – OGC Delegation Agreement to regulate oil and gas activities on agricultural land.²⁸⁹ The OGC is charged with balancing a broad range of environmental, economic and social considerations. In achieving its aim to provide 'oil and gas regulatory excellence for British

²⁸⁹ British Columbia, Oil and Gas Commission, *ALR – OGC Delegation Agreement* (2013) <<https://www.bcogc.ca/node/5759/download>>.

Columbia’²⁹⁰ the OGC oversees all regulatory aspects of UGR operations, including exploration, development, pipeline transportation and reclamation. Regulatory responsibility of the Commission extends from the exploration and development phases, through to facilities operation and, ultimately, decommissioning, while landholder appeals are heard and addressed by the Oil and Gas Appeal Tribunal.

The management of agricultural land use and UGR activities in both jurisdictions is illustrated in Figures 3 and 4, demonstrating the similarities and differences of the approval processes for UGR license holders to exploit on agricultural lands.

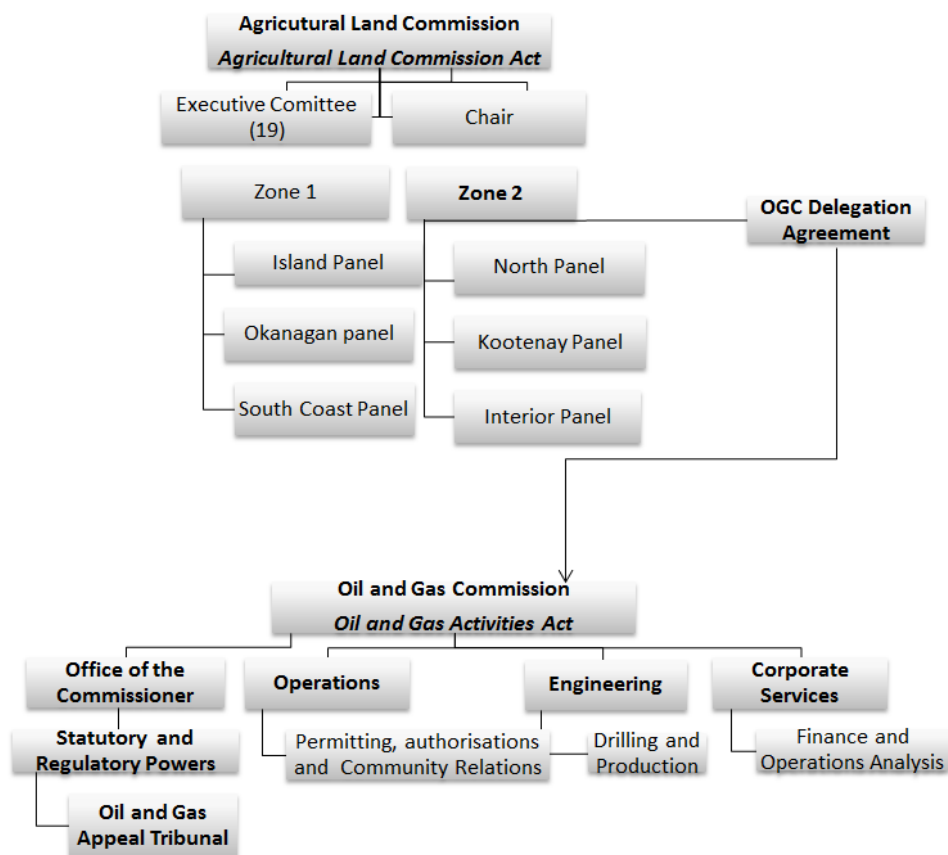
Figure 3: Relationship of RIDA Process and GC in Queensland



Source: compiled by author.

²⁹⁰British Columbia, Oil and Gas Commission, *Oil and Gas Activity Application Manual Version1.15* (2017) <<http://www.bcogc.ca/node/13267/download>>.

Figure 4: Relationship of Non-Farm Use Approvals ALR Process and OGC in British Columbia



Source: compiled by author.

As illustrated in Figures 3 and 4, the process for the approval of UGR activities on agricultural land in Queensland and British Columbia is similar. In each system, an application for use of farmland is needed, approval may be granted by either the administrative authority or the ministerial department and UGR activities commence as regulated by the relevant petroleum legislative framework. However, the differences between these systems lie in the cohesiveness of the regulatory system and collaboration between petroleum administrative bodies, governmental departments and agricultural land use regulatory systems.

The GC and OGIA bodies hold advisory and facilitative powers only. Both bodies hold the capacity to ‘advise the chief executive’ on matters relating to UGR water impacts²⁹¹ or RIDA assessments.²⁹² Similarly, the CSG Compliance Unit aims to investigate and facilitate

²⁹¹ *Water Act 2000* (Qld) s 456(1)(a).

²⁹² *Regional Planning Interests Act 2014* (Qld) s 7(d).

landholder complaints relating to CSG land access. Over two separate government departments—the Department of Natural Resources and Mines and the DILGP—the three UGR oversight bodies in Queensland do not hold regulatory powers over UGR activities. The DILGP Chief Executive holds the only law-making power in relation to approving UGR activities in PAAs. The regulatory capacity of UGR decisions remains with the Department of Natural Resources and Mines Minister in granting authorities to prospect²⁹³ and petroleum leases by competitive tender who must then work in conjunction with the minister for the DILGP for an approval for non-excluded UGR activities in PAAs.²⁹⁴

In comparison, as illustrated in Figure 3, the ALC and OGC both hold regulatory, policy and judicial powers relating to ALR lands and UGR activities in British Columbia. The facilitation of the ALC – OGC Delegation Agreement provides for a ‘streamlined’ single-window approvals and regulatory process for UGR activities on ALR lands in the Peace River Region (Zone 2). Both regulatory oversight and tribunal bodies act as independent bodies, with the OGC acting as the ALC and making decisions guided by the ALCA and regulations.

Petroleum permits are granted by the OGC in conjunction with approval for UGR activities on ALR lands. Provisions of the ALCA include issuing a stop work order, prescribing additional remedies to restore the land, seeking a court order or levying a penalty if the ALCA is contravened and if the soil is not adequately reclaimed or protected. Oil and gas non-farm use applications to the OGC are then referred to local government and the Ministry of Agriculture independently for any comment.

4.6 Exclusion as a Regulatory Tool

In Queensland, key exemptions exists for exploration of both petroleum and minerals which, consequently, are categorised as resource activities that do not require an RIDA and include petroleum survey licences, data acquisition authorities, or water monitoring authorities as regulated by the PGPSA.²⁹⁵ More than one prospecting permit may be issued over the same land and the time period granted for a prospecting permit varies between one month and one year for a district permit, while a parcel prospecting permit has a term of three months.²⁹⁶ A

²⁹³ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) div 2.

²⁹⁴ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) div 3.

²⁹⁵ *Regional Planning Interests Act 2014* (Qld) div 2.

²⁹⁶ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 30.

petroleum tenure holder may apply for a data acquisition authority to allow the applicant to carry out:

- a) geophysical surveys on land (the ‘data acquisition land’) contiguous to land in the area of the tenure to enable the applicant to acquire data relevant to authorised activities under the tenure
- b) the entering of the data acquisition land to carry out the geophysical surveys.²⁹⁷

Further, a petroleum survey licence provides tenement holders the right to enter land to survey the proposed route of a pipeline or the suitability of land for a petroleum facility licence. It can be granted for a maximum of 12 months and allows the conduct of activities that have a ‘minimal impact on the land’, however, there are no area limitations.²⁹⁸ The Queensland Government will grant a petroleum survey licence by taking into consideration the applicant’s ‘financial and technical resources and ability to manage a survey’ to work out the ‘suitability of the area of the licence for the pipeline or petroleum facility’.²⁹⁹

The RPIA provides another layer of exemptions for resource activities which, therefore, do not require a RIDA where:

- 1) consent is obtained by a landholder to explore or extract resources on a PAA, or
- 2) the activity carried out for less than one year, or
- 3) the resource activity is a ‘pre-existing’ resource or regulated activity.³⁰⁰

A resource activity is considered to be ‘pre-existing’ if commenced before the land in question became land in an area of regional interest (i.e., the activity was being carried out lawfully on the land prior to the induction of the RPIA in 2014).³⁰¹ For example, a resource activity can be carried out lawfully on land if:

- it is carried out under a resource authority or EA
- the application for either authority adequately detailed the location, nature and/or extent of the expected surface impacts of the activity

²⁹⁷ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 176.

²⁹⁸ *Regional Planning Interests Act 2014* (Qld) s 23.

²⁹⁹ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 397.

³⁰⁰ *Regional Planning Interests Act 2014* (Qld) ss 23 and 24.

³⁰¹ *Regional Planning Interests Act 2014* (Qld) s 24.

- no further authority or approval is required to be obtained in relation to the location, nature or extent of the expected surface impacts of the activity.³⁰²

Therefore, policy intent here is to exempt activities lawfully operating before an area is declared an area of regional interest. Resource activities can also be carried out with the agreement of the land owner and are exempt from requiring RIDA approvals where:

- a) a CCA applies
- b) the applicant has entered into a voluntary agreement with the land owner about the resource activity
- c) the resource activity is not likely to have a significant impact on the PAA or the SCA
- d) the resource activity is not likely to have an impact on land owned by a person other than the land owner.³⁰³

In effect, this means that resource companies are exempt from RIDA approval where there is a CCA. As a CCA is required prior to advanced activities being undertaken on land, this essentially bypasses the RIDA approvals process and it is only when preliminary activities are undertaken that approvals are required.

An ‘impact’ is defined as limiting ‘the suitability of the land to be used for a priority agricultural land use’,³⁰⁴ for PAAs or impacting ‘the land’s soil, climate and landscape features that make that area highly suitable, or likely to be highly suitable, for cropping’³⁰⁵ for SCAs. For UGR preliminary or advanced activities to be approved in SCAs, defined as agricultural cropping land, ‘the activity needs to demonstrate to have an impact for less than 50 years except under exceptional circumstances’.³⁰⁶ As previously examined in this chapter, it may be difficult to ascertain UGR well impacts in 50 years for geological reasons, whereby agricultural land can likely regenerate in this time.

Resource and regulated activities must not be likely to have a ‘significant’ impact on the relevant PAA. A ‘significant’ impact is an impact that is important, notable or of consequence, having regard to its context or intensity. According to RPIA Guideline 02/14,

³⁰² *Regional Planning Interests Act 2014* (Qld) s 24.

³⁰³ *Regional Planning Interests Act 2014* (Qld) s22.

³⁰⁴ *Regional Planning Interests Act 2014* (Qld) s 27 (a).

³⁰⁵ *Regional Planning Interests Act 2014* (Qld) s 22(c).

³⁰⁶ Australian Department of Industry, Innovation and Science, Office of the Chief Economist, *Review of the Socioeconomic Impacts of Coal Seam Gas in Queensland* (2015) < <http://www.industry.gov.au/Office-of-the-Chief-Economist/Publications/Documents/coal-seam-gas/Socioeconomic-impacts-of-coal-seam-gas-in-Queensland.pdf>>.

‘Whether or not an activity is likely to have a significant impact on the SCA depends on the scale and the effect of the impact on the SCA’.³⁰⁷ The Australian Government Department of Environment’s *Matters of National Environmental Significance, Significant Impact Guidelines 1.1* provides guidance on what may constitute a ‘significant impact’ on a matter of national environmental significance under the EPBCA.³⁰⁸

Unlike other jurisdictions Queensland sees the application of the precautionary principle where uncertainty exists to be irrelevant. Its view has been stated thus:

If there is scientific uncertainty about the impacts of an activity and potential impacts are serious or irreversible, the precautionary principle is applicable. Accordingly, a lack of scientific certainty about the potential impacts of an activity will not itself justify that the activity is not likely to have a significant impact on the area of regional interest.³⁰⁹

A typical ALR exclusion application involves detailed land use proposals, an agricultural specialist report, public hearings, and, frequently, local government support or opposition. The application is determined by ALC commissioners who work in conjunction with ALC staff members and visit the site in question before deciding the fate of the application. Applications can then be rejected outright, approved outright or receive partial approval (for either some of the land or for some of the intended uses).

Stobbe et al examines over 30 years of zoning decisions and the factors that impact decisions to change zoning to non-agricultural uses for two agricultural regions in British Columbia—the City of Abbotsford and the Saanich District on Vancouver Island.³¹⁰ The study used logistical regression models to test the impacts of spatial, political and other factors on outcomes for 81 exclusion applications near large urban centres. By applying for exclusion, a landowner indicates belief that it is more valuable from a private perspective to remove the land from agricultural use. The ALC must then determine whether the private gains outweigh the social loss, if there is any. A total of 1,758 ha or 4,344.113 ac of land were involved in ALR exclusion applications for Abbotsford and the Saanich peninsula between 1974 and

³⁰⁷ Queensland Department of Infrastructure, Local Government and Planning, *RPIA Statutory Guideline 02/14* (2017) 2.

³⁰⁸ Australian Government Department of the Environment, *Matters of National Environmental Significance* (2013) < https://www.environment.gov.au/system/files/resources/42f84df4-720b-4dcf-b262-48679a3aba58/files/nes-guidelines_1.pdf>.

³⁰⁹ Queensland Department of Infrastructure, Local Government and Planning, *ibid*, 10.

³¹⁰ Tracy Stobbe, Geerte Cotteleer and Cornelis van Kooten, ‘Hobby Farms and Protection of Farmland in British Columbia’ (2009) 32(3) *Canadian Journal of Regional Science* 393.

2006.³¹¹ In the study, it was found that 60 out of the 90 cases were permitted exclusion or partial exclusion from the ALR regime.

The average requested area for exclusion was significantly lower for approved applications than for those that were denied, with respective means (medians) of 14.0 (4.1) ha and 30.6 (13.4) ha.³¹² The impact of parcel size was significant or nearly significant for all models, as smaller parcels of land were associated with more exclusion approvals. In addition, the proportion of a parcel requested for exclusion is clearly a negative factor. Applications comprising less than the entire parcel area are more likely to be approved for exclusion, possibly because they come from landowners who present plans to enhance agricultural activity on the remaining portion of the land.

In comparison, oil and gas activities and ancillary activities located on the identified ALR lands are exempt³¹³ from the requirement of an application under the ALCA for permission of a non-farm use where:

- i) the oil and gas activity and ancillary sites for which the combined total area occupied by existing and proposed activities is less than 20 ha
- ii) pipelines and surface facilities directly related to the operation of a pipeline
- iii) conversions of existing oil and gas activity site to an oil and gas activity of ancillary site for which no new land is required for facilitates, camps, sumps, borrows and produced water storage sites.³¹⁴

The average size of a multi-well pad for drilling and fracturing UGR operations is 3.5 ac (1.4 ha). Therefore, sites with less than 14 wells would likely be exempt from the ALR – OGC Delegation Agreement and only consent by the ALR landholder would be needed in this scenario.³¹⁵ The ALR – OGC Delegation Agreement also states impact on agricultural land

³¹¹ Ibid.

³¹² Ibid, 395.

³¹³ British Columbia, Oil and Gas Commission, *ALR – OGC Delegation Agreement* (2013) <<https://www.bcogc.ca/node/5759/download>>. Article 10 states, notwithstanding articles 4,5,9 and appendix I: 10.1 A non-farm use of identified ALR Lands by a person who is not a producer for a waste storage, treatment or disposal facility; or a waste storage or disposal well on a site that includes an associated waste storage, treatment or disposal facility, is not exempt from the requirement of an application for permission for non-farm use of identified ALR Lands; and any application for permission for non-farm use of identified ALR Lands for an activity described in article 10.1 continues to be the responsibility of the ALC and follow the regular processes for non-farm use applications submitted to the appropriate local government.

³¹⁴ British Columbia, Oil and Gas Commission, *ALR – OGC Delegation Agreement* (2013) <<https://www.bcogc.ca/node/5759/download>> Appendix I.

³¹⁵ Government of British Columbia, Oil and Gas Division Tenure and Geoscience Branch, *Summary of Shale Gas Activity in Northeast British Columbia* 2013 (2013) <<https://www2.gov.bc.ca/assets/gov/farming-natural->

and agricultural operations can be minimised by locating activities on land that is classified as British Columbia Land Capability for Agriculture Class 7. Further, a pre-development site assessment is required to help ensure soil conservation and effective reclamation potential.³¹⁶

The ALR includes non-farm use of cultivated land where any of the following apply:

- the proposed activities are located on the land to utilise existing disturbance
- there are no practicable alternatives to locate the activities on lands identified in 1–4
- locating the activities elsewhere would have a more significant impact on productive agricultural land
- locating the activities elsewhere would have a more significant impact on existing or planned agricultural operations
- locating the activities elsewhere would have an unacceptable incremental impact on residents' use and enjoyment of their property
- locating the activities elsewhere would have an unacceptable incremental impact on public and worker safety or significant environmental values.³¹⁷

Similar to Queensland, a number of exemptions for UGR activities on ALR lands apply within the Delegation Agreement. For example, a range of oil- and gas-related activities are permitted on ALR lands, including geophysical exploration, pipelines and related facilities, power lines that are adjacent to roads, and up to three well sites.³¹⁸ These exception provisions have remained unchanged since the enactment of the first oil and gas and ALR – OGC Delegation Agreement in 2004, despite the passage of the *Agricultural Land Commission Amendment Act, 2014*.³¹⁹

However, some safeguards do exist to protect agriculture on those lands. For example, proponents who apply for additional non-farm use activities on ALR lands must submit a pre-development site assessment to help ensure soil conservation and effective reclamation and plan the location of the activities to minimally impact agriculture, such as by avoiding higher

resources-and-industry/natural-gas-oil/statistics-and-activity/summary_of_shale_gas_activity_in_northeast_british_columbia_2013.pdf>.

³¹⁶ British Columbia, Oil and Gas Commission, *ALR – OGC Delegation Agreement* (2013) <<https://www.bcogc.ca/node/5759/download>>.

³¹⁷ *Ibid.*, 4.

³¹⁸ British Columbia, Oil and Gas Commission, *Landowner's Information Guide* (2015) <<http://farmersadvocate.ca/wordpress/wp-content/uploads/2015/07/bc-oil-and-gas-commission-land-owners-information-guideweb-viewing.pdf>>.

³¹⁹ SBC 2002, c 36.

quality lands and siting facilities on non-cultivated lands. The ALC and OGC states that, for the determination of oil and gas activities or ancillary activities using Appendix I, proponents are required to complete area calculations to determine, on a section basis or equivalent, the combined total area occupied by existing and proposed oil and gas activities.³²⁰ For purposes of area calculations, a section or equivalent is described as:

- a) the legal section for activities located inside the Peace River Block (i.e., Section 1, Township 86, Range 17, W6M)
- b) the equivalent area of four units starting sequentially in the SW corner of the Block in the National Topographical System for activities outside the Peace River Block (i.e., units 1-2-12-11; 3-4-14-13; etc.; Block E, 94-A-11).³²¹

However, the following activities are exempt in the calculations of combined total area:

- pipelines (if underground), including temporary workspace required for construction purposes that will be reclaimed at the same time as the pipeline right of way
- a single riser site that is directly related to the operation of a pipeline and is less than or equal to 1 ha
- electric power lines with single-pole structures
- seismic lines (including cut lines made by hand or machine in the course of geophysical exploration) and temporary use sites for geophysical exploration (including camps) where the seismic lines and sites are immediately reclaimed following the completion of the geophysical exploration, if such reclamation is required by permit or by OGAA
- temporary winter access that is constructed in frozen conditions where no roadbed development is required
- temporary use sites for ancillary activities (e.g., log decking sites, workspaces, campsites, geotechnical investigation areas, storage sites, etc.) where:
 - the site is only used during the construction phase of an oil and gas activity, and will be immediately reclaimed following the completion of the construction phase of the oil and gas activity

³²⁰ British Columbia, Oil and Gas Commission, above n 318, Appendix I.

³²¹ Ibid, 12.

- no surface soil stripping or significant compaction or rutting (as compared to adjacent site) is reasonably expected to occur, and if such things do occur, the disturbed area is immediately reclaimed
- the site will be available for farm use after the construction phase of the oil and gas activity has been completed.³²²

In planning oil and gas activities on ALR lands, applicants are expected to ‘minimise disturbance to ALR land and agricultural operations by limiting the extent of disturbance to what is necessary to safely and appropriately conduct the activity’.³²³ Appendix II of the ALR – OGC Delegation Agreement provides a hierarchy of land types where oil and gas activities must be located to minimise impact on agricultural operations.³²⁴ Therefore, in comparison to Queensland, a number of exemptions for UG activities exist on ALR lands. Comparative to the RPI exemption regime, however, the Delegation Agreement does provide a comprehensive and transparent process to facilitate UGR activities and their minimal disturbance of ALR lands.

4.7 Regulating Water Use

Both agriculture and natural resource extraction require water use and both impact on the sustainable use of groundwater. Groundwater extraction in the Queensland Darling Downs region for farming and coal mining in the area commenced in the 1960s, resulting in a loss of stream flow.³²⁵ Tan, Baldwin, White and Burry and George acknowledge that water supply for the irrigated agriculture and towns from the Central Condamine Alluvium, in the Murray-Darling River System, comes from groundwater that is over allocated and displaying symptoms of declining water quality and quantity, ‘Current extraction is assessed at 67 GL/a (gigalitres per annum), while the best available scientific data estimates the sustainable groundwater system yield is closer to 40 GL/a’.³²⁶ This is an important regional issue as current groundwater use is unsustainable in the Darling Downs area. The Darling Downs region has already experienced water stress due to over allocation and overuse of groundwater

³²² British Columbia, Oil and Gas Commission, *Oil and Gas Activity Application Manual Version 1.15* (2017) <<http://www.bcogc.ca/node/13267/download>>, 173-174.

³²³ *Ibid*, 74.

³²⁴ British Columbia, Oil and Gas Commission, above n 318, Appendix II.

³²⁵ Tan, George and Comino, above n77, 682.

³²⁶ Poh-Ling Tan, Claudia Baldwin, Ian White and Kristal Burry, ‘Water planning in the Condamine Alluvium, Queensland: Sharing information and eliciting views in a context of overallocation’ (2012) 474 *Journal of Hydrology* 38.

resources historically, as identified in the Murray-Darling Basin Plan.³²⁷ Landholders have cited that further stress has been added due to UGR extraction and potential contamination of water aquifers.³²⁸

Despite attempts at water reforms by Australian states and territories over the past two decades, the ‘Millennium’ drought, which commenced in 1997, brought to a head the over allocation of water in the important Murray-Darling Basin and the degradation of the basin’s water-related ecosystems. This resulted in the Australian Parliament enacting a new *Water Act 2007* (Cth) requiring the development and implementation of an integrated water resources plan for the Murray-Darling Basin (Basin Plan). The Basin Plan aims to achieve a healthy working basin through the establishment of new long-term average sustainable diversion limits that reflect an environmentally sustainable level of water use (or ‘take’). These sustainable diversion limits are limits on the volumes of water that can be taken for consumptive purposes (including domestic, urban, industrial and agricultural use) and are set at both a catchment and a Basin-wide scale. The Basin Plan will recover large quantities of surface and groundwater to meet the environmental needs in the Condamine–Balonne catchment, however, GAB water is specifically excluded from the Basin Plan.³²⁹

UGR production in Queensland requires groundwater extraction to liberate CSG from coal cleats, thereby improving gas recovery. Consequently, the sustainability of associated water produced during UGR extraction is a significant regulatory concern due to its high salinity and variable chemical composition if left untreated.³³⁰ This has led to calls for an alternative cumulative impact baseline monitoring system of groundwater of crucial importance to agriculture, as argued by the Australian Dairy Industry Council:

An assessment and monitoring system needs to provide independently verified baseline data and on-going monitoring data to transparently identify potential

³²⁷ Australian Government, Murray-Darling Basin Authority, Basin Plan as required by s 44(2)(c)(ii) *Water Act 2007* (Cth).

³²⁸ Lynne Griffiths, ‘Conflict over water use in the Liverpool Plains / Namoi River region of the Murray-Darling Basin’ (2013) 41(2) *Interaction* 26.

³²⁹ *Water Act 2000* (Qld) s 44 (2)(c)(ii).

³³⁰ Hyeonrak Cho, Yongjun Choi, Sangho Lee, Jinsik Sohn and Jaewuk Koo, ‘Membrane distillation of high salinity wastewater from shale gas extraction: effect of antiscalants’ (2016) 57 *Desalination and Water Treatment* 26718.

cumulative impacts of unconventional gas mining in a regional context, with any impacts remedied.³³¹

There are a number of groundwater systems located in the GAB and these include the Condamine Alluvium catchment in the Surat Basin, which can have highly variable rainfall patterns which occur periodically between high intensity rain and extended periods of drought.³³² During periods of low rainfall, irrigated agriculture in the Surat Basin is highly dependent on groundwater extracted from the Condamine Alluvium groundwater system.³³³ According Tan et al, approximately 90% of the water taken from the Condamine Alluvium between 2005 and 2006 was for the irrigation of crops.³³⁴ It has been found that there has been a decline in the standing water level of the Central Condamine Alluvium from 1960 to 2008. The use of the Condamine Alluvium by the agricultural industry highlights the importance of appropriate management of water extraction during UGR operations.³³⁵

A number of studies have documented the effect of UGR exploration and extraction on agricultural regions of Queensland, primarily in the Darling Downs region.³³⁶ A consistent concern among agricultural landholders is continued water access necessary for future 'dry' farming agricultural areas reliant on underground water bores due to typically low rainfall in some areas. Consequently, UGR activities, if ineffectively regulated, may be a threat to water security, particularly in recurring drought areas and potential groundwater quality and quantity effects on agricultural areas where UGR development takes place.³³⁷ In 2012, the Queensland Water Commission identified three main areas of impact on water resources from

³³¹ Australian Dairy Industry Council, Submission No 46 to Select Committee on Unconventional Gas Mining, *Inquiry into Australia's Legislative Regulatory and Policy Framework for Unconventional Gas Mining*, 15 March 2016.

³³² Martin Thoms and Melissa Parsons, 'Identifying spatial and temporal patterns in the hydrological character of the Condamine-Balonne River, Australia, using multivariate statistics' (2003) 19 *River Research and Applications* 443.

³³³ Worley Parsons, *Groundwater Risks Associated with Coal Seam Gas Development in the Surat and Southern Bowen Basins Final Report* (2013) < https://www.dnrm.qld.gov.au/__data/assets/pdf_file/0013/106015/act-5-groundwater-risks-report-text.pdf>.

³³⁴ Tan et. al., above n 327, 38.

³³⁵ Chantelle A.Rebello, Sara J.Couperthwaite, Graeme J.Millar, Les A.Dawes, 'Understanding coal seam gas associated water, regulations and strategies for treatment' (2016) 13 *Journal of Unconventional Oil and Gas Resources* 32, 32.

³³⁶ Rosemary Leonard, Rod McCrea and Andrea Walton, 'Perceptions of Community Responses to the Unconventional Gas Industry: The Importance of Community Agency' (2016) 48 *Journal of Rural Studies* 11; Ralph Brown, Shawn Dorins and Richard Krannich, 'The Boom-Bust-Recovery Cycle: Dynamics Of Change In Community Satisfaction And Social Integration In Delta, Utah' (2005) 70(1) *Rural Sociology* 28; Rod McCrea, Andrea Walton and Rosemary Leonard, 'Developing a Model of Community Wellbeing and Resilience in Response to Change' (2016) 129(1) *Social Indicators Research* 195.

³³⁷ Andrea Walton, Rachel Williams and Rosemary Leonard, 'Community Perspectives of Coal Seam Gas Development during Two Phases of Industry Activity: Construction and Post-Construction' (2017) 26(1) *Rural Society* 85.

UGR activities—impacts on water levels in coal seams from the extraction of water during mining activity; damage or pollution to an aquifer, as some degree of interconnectivity exists with coal seams; and the release of ‘produced’ water.³³⁸

Alongside concerns relating to groundwater depletion in UGR activities is the concern of varying amounts of associated water produced from each UGR well. Produced water occurs when coal seams are dewatered—water from the well is high initially and decreased as the water flows from the coal cleats to the surface. This flow of water decreases over time, as the gas is released from the coal cleats, leading to an increase in CSG until depletion.³³⁹ As there is potential for associated water to impact the environment if it is released onto land or to surface waters and left untreated, concentration limits for water quality parameters are set to maintain a minimum impact upon the natural environment. The National Water Commission conservatively estimates water production from CSG wells in Queensland at up to 300 gigalitres per year (GL/yr) or a total volume up to 7,500 gigalitres over the life of the CSG project.³⁴⁰

Therefore, the Australian Government, through state legislation, regulates the use and discharge of associated water for all companies who operate UGR wells in the Surat Basin. The associated water is regulated by the WA for physical and chemical parameters and the concentrations required are dependent on the application for which the associated water is to be used.³⁴¹ Other legislation that may control the use of UGR water, depending upon how it is to be managed and used, include the *Water Supply (Safety and Reliability) Act 2008* (Qld), where operators undertake a water supply service such as supplying treated CSG water for the purposes of a municipal drinking water supply, and *Waste Reduction and Recycling Act 2011* (Qld), for authorising particular and general beneficial uses of CSG water and what would otherwise be CSG-related wastes.³⁴²

³³⁸ Queensland Government, Department of Environment and Heritage Protection, *Coal Seam Gas Water Management Policy* (2012).

³³⁹ Rebello, Couperthwaite, Millar and Dawes, above n 336, 32.

³⁴⁰ Queensland Water Commission, *Underground Water Impact Report for the Surat Cumulative Management Area* (2012) <http://www.dnrm.qld.gov.au/__data/assets/pdf_file/0016/31327/underground-water-impact-report.pdf>.

³⁴¹ *Water Act 2000* (Qld) s 1250C.

³⁴² Queensland Government, Department of Environment and Heritage Protection, *Coal Seam Gas Water Management Policy* (2012).

The PGPSA grants a petroleum title holder the right to access groundwater within the applicable land.³⁴³ Therefore, a petroleum license holding may:

- a) take or interfere with the water in the course of, or resulting from, the carrying out of an authorised activity for the tenure
- b) use this water for carrying out of another authored activity for the tenure
- c) take or interfere with the water for use in the carrying out of another authorised activity for the tenure.³⁴⁴

Consequently, the title holder may take or interfere with underground water if the taking or interference occurs during authorised activities as ‘associated water’ falling within the definition of underground water when carrying out authorised petroleum activities. There is no specific limit as to the volume of water that may be taken during authorised activities.³⁴⁵ The distinction is also important because the WA provides that all water and entitlements to the use, flow and control of all water in Queensland are the State’s.

The WA makes it an offence to take, supply or interfere with water unless authorised under the WA. However, s 188 of the PGPSA provides an exception to this requirement, thereby legalising the taking or interfering of underground water without further licences under the WA.³⁴⁶ The UGR water regulatory regime in Queensland remains ambiguous, therefore, whether a petroleum operator extracts water (as considered by the WA) while exercising their underground water rights that do not actually meet the requirement of the definition of ‘underground water’. As stated by Brockett, ‘The potential for any long term, material environmental impacts to be felt long after the CSG industry has come and gone and the relevant proponents have exited, is that any potential remediation costs may fall on the public purse. This issue deserves greater attention from regulators’.³⁴⁷ There has been substantial analysis of the issue of hydraulic fracturing and its impact on underground water, however, the regulation and cumulative effects of hydraulic fracturing is beyond the scope of this thesis.³⁴⁸

³⁴³ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 185(2)(a).

³⁴⁴ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) sch 2.

³⁴⁵ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 185.

³⁴⁶ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 188.

³⁴⁷ Robert Brockett, ‘The Regulation of Unconventional Gas in Queensland and New South Wales – Divergent Paths, Same Destination?’ (2014) 12(3) *Oil, Gas & Energy Law Intelligence* 71.

³⁴⁸ Ryan Vogwill, *Solving the Groundwater Challenges of the 21st Century* (CRC Press, 2016); Adrian Bradbrook, *The Law of Energy Underground: Understanding New Developments in Subsurface Production*,

The Minister for Natural Resources and Mines has the ability to declare any land as excluded land under the PGPSA,³⁴⁹ however, the legislation does not specify certain categories of land (such as land near water sources or residences) to be excluded (as is the case with the MRA Act). Owners of land have limited rights of objection under the PGPSA.³⁵⁰ There is no general right to object to the grant of a tenement as is the case under the MRA Act.³⁵¹ An owner of land may, however, require an authorised officer of the Minister to call a conference for the purposes of discussing any concerns they have in relation to any actual or proposed activities conducted on their land.³⁵² Continuous reforms to the petroleum regulatory framework related to water in Queensland has resulted in the complex framework, whereby the PGPSA permits petroleum tenement holders to exercise their underground water rights, which are exempt from complying with water licensing requirements under the WA. However, a petroleum license holder must comply with scientific requirements set out in ch 3 of the WA, including monitoring, reporting and, in some circumstances, reparation obligations.³⁵³

The adaptive management regulatory approach has created the position of multi-layered duties on UGR titleholders alongside obligations to compensate landholders and ‘make good’ any harm caused. However, the amendments to the WA do not operate and apply to UGR operations retrospectively, attracting criticism as ‘an afterthought’ as the amendments were introduced once the State’s three largest UGR projects were approved in 2012.³⁵⁴

One of the most critical issues of UGR activities impacting agricultural land uses is the impact of UGR extraction on water resources. The issues identified in the Murray-Darling Report acknowledge the potential impact of UGR on groundwater reserves, particularly on local acquirers within the GAB network.³⁵⁵ This is of critical importance, given the reliance by agricultural landholders on surface and groundwater systems and the fact that much of the land where UGR occurs is located in agricultural land used for cropping and grazing. In

Transmission, and Storage (Oxford University Press, 2014); Venki Uddameri, Audra Morse and Kay J.

Tindle, *Hydraulic Fracturing Impacts and Technologies: A Multidisciplinary Perspective* (CRC Press, 2015).

³⁴⁹ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 99.

³⁵⁰ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 392BB (objection provisions for petroleum authorities for overlapping geothermal or GHG leases).

³⁵¹ *Mineral Resources Act 1989* (Qld) s 71.

³⁵² *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 734B; *Petroleum Act 1923* (Qld) s 103A.

³⁵³ *Water Act 2000* (Qld) s 361.

³⁵⁴ Stephen Hunter, *Independent Review of the Water Trigger Legislation* (2017) <<http://www.environment.gov.au/system/files/resources/905b3199-4586-4f65-9c03-8182492f0641/files/water-trigger-review-final.pdf>> 60.

³⁵⁵ Murray-Darling Basin Authority (Cth), *Annual Report 2015–16* (October 2016) <<https://www.mdba.gov.au/publications/mdba-reports/mdba-annual-report>>.

recognising this issue, the Queensland Government enacted the OGIA, governed by the WA, in regulating the use of water during UGR activities.³⁵⁶ Additionally, Queensland has also needed to address concerns relating to water produced from CSG activities. The processing of produced water (often called associated water or CSG water) is regulated under s 111A of the PGPSA, inserted in amendments in 2012 in response to farmer concerns.³⁵⁷ The produced water is treated to remove salts and other chemicals and then disposed of. Such disposal relies on the beneficial use of the water extracted, since it cannot be reinjected into the producing formation.

The impact of UGR on water, the possibility of contamination and the constant threat of drought conditions is a constant and frequent source of concern to agricultural landowners who rely on quality water sources for agricultural production. Despite reports and legislative reviews of the UGR sector in Queensland, the OGIA has not yet embraced innovative monitoring techniques or widened its scope to incorporate the latest water monitoring technologies to assist in meeting landowner concerns. The Queensland Competition Authority recognises that the regulatory framework for UGR water is complex and that there is:

significant scope to streamline and remove duplication in arrangements relating to public drinking water, waste tracking and for the assessment of bores affected by CSG water extraction. Consideration should also be given to consolidation of the regulation of CSG water into a single portfolio to enhance synergies between the various areas of government with expertise in CSG water regulation.³⁵⁸

Therefore, the PGPSA and WA regulation of water in the UGR sector arguably falls short of achieving policy objectives of promoting an effective petroleum sector and maximising the sector's potential due to burdensome, rigid, unclear and complex regulations.

A report by John Crippen and Berger estimates that CSG water produced during peak production from 2018 to 2024 will vary from 140 GL/y to 300 GL/y.³⁵⁹ In response to public concern over UGR, recent amendments to the WA have focused on protecting the rights of directly impacted bore users through mitigation of immediate and longer-term impacts on individual farmers. Specifically, management mechanisms require UGR companies to

³⁵⁶ Queensland Government, Business Queensland, *Office of Groundwater Impact Assessment* (2017) <<https://www.business.qld.gov.au/industries/mining-energy-water/resources/land-environment/ogia>>.

³⁵⁷ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 111A.

³⁵⁸ Queensland Competition Authority (Qld), *Final Report: Coal Seam Gas Review* (January 2014) <<http://www.qca.org.au/getattachment/aaaeab4b-519f-4a95-8a65-911bc46cc1d3/CSG-investigation.aspx>> 58.

³⁵⁹ John Crippen Berger Ltd. 2012. 'Forecasting Coal Seam Gas Water Production in Queensland's Surat and Southern Bowen Basins: Technical Report.' Prepared for State of Queensland (Department of Natural Resources and Mines).

monitor and assess the impact of the exercise of underground water rights on water bores; enter into 'make good' agreements with the owners of the bores; and prepare underground water impact reports, if required, that establish underground water obligations, including obligations to monitor and manage impacts on aquifers and springs.³⁶⁰ Therefore, where the UGR activity has created an impact on the acquirer, the UGR license holder must:

- i) monitor and assess the impact of the exercise of the underground water rights pursuant to s 185 of the PGPSA
- ii) enter into a make good agreement with the landholder, which may include deepening a pump, deepening a well, increasing the size of a well pump, drilling a new bore into a different aquifer, supplying water from a different location, or entering into an arrangement for financial compensation pursuant to s 409 of the WA.

Significantly, the rights of bore users only come into play after the grant of a petroleum authority and the commencement of mining. Rights given to landholders relate to negotiating land access with the miners and to compensation (not related to water) that many regard as not commensurate with the damage to the farming enterprise or to their land or to the inconvenience that they suffer, although some farmers report substantial compensation.³⁶¹ Even if the monetary compensation were made more substantial, arguably it would still relate only to impacts suffered by individuals and not to the community.

The Queensland Energy and Water Ombudsman is a broad dispute resolution mechanism for landholder complaints which regulates a number of energy commodities (electricity, gas and water) rather than being specifically dedicated to petroleum.³⁶² The ombudsman investigates and resolves disputes involving consumer contracts with energy and water supplies. Due to the recognition of the ombudsman acting as a consumer-based dispute body, rather than a body dedicated to direct the relationship between landholders and resource companies, Agforce (Queensland's peak agricultural body) stated in its submission to the GC Review:

AgForce is of the view that the most effective role for the GFC is to engage with [broader] rural communities, industry, Government and business rather than resolve individual landholder disputes and complaints. Thus reiterating our view that an

³⁶⁰ *Water Act 2000* (Qld), Pt 5.

³⁶¹ Tan, George and Comino, above n 77, 682.

³⁶² Energy and Water Ombudsman, *Home Page* (2017) <<http://www.ewoq.com.au>>.

independent arbitrary body is better suited to fulfil this position and supported by the existing functions of the GFC at a [broader] level.³⁶³

The CSG Compliance Unit and the OGIA provide two additional oversight bodies aimed at being ‘one stop shops’³⁶⁴ for all enquiries and complaints relating to CSG. The CSG Compliance Unit may issue penalty infringement notices for breaches of the mandatory provisions of the LAC administered by the PGPSA. The OGIA is funded by an onshore gas industry levy and provides corporate and administrative support in overseeing the groundwater impacts of petroleum and gas industries. Due to the number of CSG companies and projects operating in the Surat and southern Bowen areas, a cumulative management area has been declared under ch 3 of the WA. Consequently, the OGIA is responsible for production of the Underground Water Impact Report for the Surat and southern Bowen cumulative management area. The Report’s models offer water usage predictions and are a tool to manage the impacts of underground water extraction by CSG companies. It also assigns responsibility to petroleum tenure holders and ensures measures and programs are in place to respond to impacts on underground water.

In comparison, water use by resource companies in British Columbia is controlled by the OGC and the OGAA. The OGC’s ability to make regulations in respect of groundwater is found in s 2 of the OGAA:

(2) The Lieutenant Governor in Council may make regulations authorizing the minister responsible for administering the *Water Sustainability Act*

(a) to establish, for the purposes of paragraph (c), a designated watershed or portion of a watershed, in accordance with regulations, if any, respecting the classification of watersheds made under section 103 (3) (b),

(b) to identify, for the purposes of paragraph (c), either or both of the following:

(i) an aquifer, in accordance with regulations, if any, respecting the classification of aquifers made under section 103 (3) (c);

(ii) a groundwater recharge area, and

(c) to establish, for the purposes of section 36 (1), an environmental measure in relation to paragraphs (a) and (b).

³⁶³ Scott, above n 212, 58.

³⁶⁴ Ibid, 6.

In accessing groundwater, a *Water Sustainability Act*³⁶⁵ authorisation for the water use is required immediately.³⁶⁶ Oil and gas operators obtain a water licence from the OGC and approval for from the landholder is needed for access to the private land.

The OGC is therefore designated as Regional Water Managers and Assistant Regional Water Managers by the Deputy Minister of the Ministry of Forests, Lands and Natural Resource Operations, with the authority to administer the *Water Sustainability Act*³⁶⁷ in regards to water licensing for the oil and gas sector. Mandatory licensing and approvals enable the OGC to monitor and track water consumption and withdrawal locations, thereby bettering sustainable water management. The OGC Water Licensing Regulations states the following objective:

Efficient and equitable access to Crown water resources to support sound development of the oil and gas sector, in a manner ensuring environmental protection and public safety, and not impairing First Nations and public rights, or existing water rights.³⁶⁸

A water licence is commonly used as authority to access water for activities exceeding a two year period. These activities will include well drilling and well completions over a number of years in a lease area, road maintenance or winter access requirements, or establishing permanent water infrastructure (e.g., a pipeline) as part of a water supply strategy. Water license rights are granted under s 7 of the *Water Sustainability Act*³⁶⁹ in relation to UGR operators. These rights are predominantly to divert and beneficially use the quantity of water specified in the licence; store water; construct, maintain and operate the works authorised by the licence and related works necessarily required for the proper diversion or use of the water or the power produced from the water; make changes in and about a stream necessary for the construction, maintenance or operation of the works referred to above; or to otherwise facilitate the authorised diversion.³⁷⁰

Water licences associated with oil and gas or related activities will generally be issued with terms of 5 to 20 years. Where activities associated with a water licence are to be carried out on private land, such as pumps or access roads, applicants are encouraged to develop a surface agreement with the land owner. A surface agreement is not required to be submitted with the

³⁶⁵ SBC 2014, c 15.

³⁶⁶ *Oil and Gas Activities Act*, SBC 2008, c 36, s 32.

³⁶⁷ SBC 2014, c 15.

³⁶⁸ British Columbia Oil and Gas Commission, *Water License Application Manual* (2016) <<http://www.bcogc.ca/node/11009/download>>.

³⁶⁹ SBC 2014, c 15.

³⁷⁰ British Columbia Oil and Gas Commission, above n 369, 9.

application, but may be requested by the Regional Water Manager. In cases where a surface agreement with the private land owner cannot be developed, applicants contact the OGC.

The ‘make good’ arrangements, water and energy ombudsman and the multiple compliant units which comprise the land use regulatory framework are arguably unique to Queensland. The delay costs arising from this complex land use oversight regime may reduce the profitability for all participants and the sector’s ability to claim a ‘social licence to operate’ as the basis of fair and equitable conduct. This means the current land use regime operates at cross-purposes in terms of the GC objective of obtaining coexistence between competing interests. This has led to the *Independent Review of the Gasfields Commission* recommending a refocus on the functions of the GC to a more strategic level in becoming ‘the trusted advisor to government and stakeholder representative bodies on strategic issues including the status of the co-existence model’.³⁷¹

4.8 Conclusion: Which System of Regulation has the Capacity to Implement Queensland’s Coexistence Objectives?

This chapter argues that much UGR activity in Queensland is taking place in a context of regulatory failure. It has been demonstrated that the regulatory regime serves to stimulate and drive the economic value of the energy sector, often at the expense of the private interests and concerns of agricultural landowners. Queensland’s prime agricultural sectors in the Bowen and Surat Basins have witnessed an unprecedented growth in exploration which has created uncertainty and resulted in frequent complaints from agricultural landowners. The limited opportunities to seek landholder redress, the perception of environmental damage to land and underground aquifers and the perceived lack of government oversight has become the popular perception of UGR operation. This has led to CSG moratoriums in other Australian states. For example, other Australian states have also sought to implement provisions to allow the exclusion of highly productive lands from UGR exploration. In Victoria, landholders may apply to the minister for Resources to have agricultural land excised from a licence where the economic benefit of the land for agricultural purposes is greater than the work proposed in the licence.³⁷² Today, Queensland uses the GC as an advisory body with limited powers to

³⁷¹ Scott, above n 212, 5. *Mineral Resources (Sustainable Development) Act 1990* (Vic) s 26B(1).

³⁷² *Mineral Resources (Sustainable Development) Act 1990* (Vic) s 26B(1):

- (1) On the application of an owner or occupier of agricultural land, the Minister must excise the land from the area covered by a mining licence or prospecting licence if—
 - (a) the licensee consents to the excision; or

administer and manage coexistence between agricultural and energy land uses, its two dominant economic sectors.

Effective principles-based regulation provides a transparent and streamlined approach to promoting coexistence of UGR activities on agricultural lands in British Columbia. For over 40 years, British Columbia has focused on implementing its policy of developing its UGR resources while providing strong regulatory oversight and protection mechanisms in a specialised agricultural land protection administrative body and tribunal. While the system may face further challenges as UGR exploration ramps up to meet global demand, the framework to manage coexistence is already in place. British Columbia awards UGR approval on ALR lands under a discretionary system while stipulating approval conditions within the ALR – OGC Delegation Agreement. This objective principles-based discretionary system serves to facilitate a collaborative relationship between agricultural and energy land use. It also supports the development of UGR, without disadvantaging agriculture and the communities who farm the land.

The continued growth and development of the energy sector in both jurisdictions is undisputed. Both the Queensland and British Columbian Governments have demonstrated interest in pursuing a robust export industry for UGR. The similarities in attempting to balance land uses of petroleum and agriculture are found within their respective land use regimes. The role of the state in mediating between two sectors or privileging one above the other calls into question how the state manages these conflicts in the public interest.

In Queensland, an individual landholder must commence proceedings to have a UGR activity on their agricultural land reviewed. The landholder must prove their case in Queensland with their own resources and the onus of appellate proceedings in contesting a RIDA approval for UGR activities. The advisory body of the GC does not have a strong history of defending individual landholders and its independence and effectiveness has been called into question in 2016 with the ordering of its independent review. In British Columbia, there are clear

(b) the Minister decides, in accordance with section 26D, that there would be greater economic benefit to Victoria in continuing the use of the land as agricultural land than in carrying out the work proposed to be carried out on that land under the licence.

(2) An application for excision must be made to the Minister in writing within 30 days after the owner or occupier receives a copy of the statement of economic significance provided in relation to the land.

Note that coal seam gas activities are regulated by the *Mineral Resources (Sustainable Development) Act 1990* (Vic) s 4.

regulatory avenues for dispute resolution to take place well before an individual case arises. Whereas in Queensland, the State has abrogated its responsibility to the level of the individual landholder and distanced itself from the role of active ‘watchdog’ in managing land use coexistence between the two sectors.

In British Columbia, the State’s role is to arbitrate between the two land uses and the administrative regulatory bodies look at the value of both sectors and make a determination at the agency level rather than at the individual level. The legislative paradigm that underpins its role as either as advisor ‘at arms-length’ or to seek to assist those who are affected by the UGR industry in regulating the approvals of UGR activities on ALR lands. In Chapter 5, further evidence of Queensland’s abrogation of State responsibility and regulation of coexistence is examined through an analysis of the CCA land access regime.

CHAPTER 5: REGULATING LAND ACCESS CONFLICT

5.1 Introduction

A significant issue in the regulation of UG extraction is the impact of the use of land for resource activities. As explored in Chapter 2, the most effective regulatory approach to manage competing interests is based on principles of flexibility. This includes a set of regulatory principles that are accessible and easily applied to the management of UG activities on agricultural land.

Queensland's land access regime provides the statutory and policy framework for accessing private land to undertake resource activities and to compensate for associated impacts. The PGPSA introduced a LAF with the specific aim of reducing land and resource conflicts with landholders directly associated with the expansion of UG exploitation and effectively creating coexistence in interests. This chapter considers whether the current land access regulatory framework for the regulation of UG extraction in Queensland is effective in meeting this objective. In considering this question, this chapter also examines whether any alternative regulatory tools or approaches exist to effectively manage multiple interests when developing UG on agricultural land.

The main issue addressed in this chapter is the role of state control in the regulation of land access arrangements. In 2016, Queensland enacted a new land access legislative structure under the MERCPA. The MERCPA is the most recent legislative instrument to be introduced by the State to encompass resource extraction activities. The impetus to create the MERCPA is based on the requirement for a single unified Act to consolidate regulatory functions common to each of the Resource Acts (minerals, petroleum, geothermal energy and carbon capture and storage) and to provide common processes that apply to all resource titles, including administering and regulating compensation and land access agreements.

The effectiveness of this regulatory regime is measured against the continuing goal of the Queensland Government to support the resource sector by consolidating the Acts covering the minerals and coal, petroleum and gas, geothermal, and greenhouse gas storage sectors. In analysing the effectiveness of government regulation in the management of land access and compensation agreements for UG extraction, this chapter considers the divergence between regulation and landholder requirements while proposing collectivisation of landholders'

interests as a potential alternative regulatory tool and mechanism in negotiating and reaching UGR land access agreements.

5.2 Regulation of Land Access as a Tool to Managing Conflicting Interests

The extraction of UGR requires access to land for long periods of time, usually between 10–20 years.¹ This access is required for many purposes, including geological and seismic surveying and assessment and data collection to confirm the extent of the resource. Land access is a fundamental component of UGR regulation, since access is required for the purpose of boring wells and the establishment of equipment and plants to secure the extraction of UGR, creating a burden on the landholder.²

When a state develops its petroleum resources, it grants a petroleum lease or license, as an authorisation regulatory tool, to a titleholder and UGR activities begin on a property.³ Petroleum titles are, therefore, granted over privately held freehold land and may create conflicting interests with the private fee simple landholder by legislating the preliminary negotiation and subsequent appellate process for land agreements. Often, in Queensland, the Crown grants leases over land which operates as an agricultural businesses for the landholder.⁴ This creates the potential for conflicts regarding land access, since agricultural landholders are necessarily required to negotiate access and compensation agreements with petroleum titleholders.⁵

The rights between parties, particularly of the private landowner, are only partly defined by the legislation, which allows parties flexibility to add their own terms in ancillary agreements which purport to bind the landholders.⁶ These land access agreements may be classified as authorisation regulatory tools, acting as permits and certification to commence UG activities in Queensland. The statutory provisions, which on face value give extended effect to agreements between the landowner and third parties, can interact in complex ways creating inadequately drafted compensation agreements that may be difficult to interpret for landholders, or have unintended effects.

¹ Debra Kaden and Tracie Rose, *Environmental and Health Issues in Unconventional Oil and Gas Development* (Elsevier, 2015).

² Maria Mastalerz, Miryam, Glikson and Suzanne Golding, *Coalbed Methane: Scientific, Environmental and Economic Evaluation* (Springer, 2015).

³ As regulated by the PGPSA in Queensland and PNGA in British Columbia.

⁴ Agricultural communities are located above the Surat Unconventional Gas Basin, such as the Darling Downs Region as examined within Chapters three and four of this thesis.

⁵ *Mineral and Energy Resources (Common Provisions) Act 2014* (Qld) s 83.

⁶ As regulated by the MERCPA and *Land Access Code 2016* (Qld).

The question of regulation for land access agreements and landholder negotiation and compensation has been considered by a number of petroleum-producing jurisdictions, including Australia, Canada⁷ and the US.⁸ However, the question arises as to whether the method of regulating land access agreements should be rule-based and heavily regulated, or principles-based and collaborative, potentially allowing multiple landholders to negotiate a collective land access agreement. This question is particularly pertinent and important for Queensland, which has undertaken reviews of its land access regulation since the introduction of the LAF in 2010⁹ and its review in 2012 by the *Land Access Implementation Committee Report*.¹⁰ The reviews have been prompted, in part, by criticism from the agricultural communities in regions affected by UG extraction, including the Darling Downs. As explored in Chapter 3, the ownership of UG lies with the State in Queensland. However, once the State has granted a petroleum lease and the petroleum titleholder commences advanced petroleum activities on private fee simple or freehold land, the petroleum titleholder must negotiate a land access agreement via a CCA, opt-out agreement or deferral agreement to gain access to land for petroleum production and exploration activities.

When establishing a regulatory framework for the exploitation of UGR, the state, as the petroleum regulator, must determine the optimal method of permitting UGR activities on agricultural land while protecting agricultural land sustainability and landholder interests. This gives rise to another issue that must be considered, the optimum level of protection for landholders when negotiating land access agreements. The challenge then, for regulators, is to create effective regulation with enough objectiveness and applicability to changing circumstances to allow petroleum titleholders to define land access compensation in a transparent system that balances the value of the economic gain in extracting UGR resources and the protection of landowner interests.¹¹

⁷ Jed Chong and Milana Simikian, *Shale Gas in Canada: Resource Potential, Current Production and Economic Implications* (Library of Parliament, 2014). Kathryn Garvie and Karena Shae, 'Oil and Gas Consultation and Shale Gas Development in British Columbia' (2015) 184 *BC Studies* 73.

⁸ Daniel J. Soeder, *Unconventional: Natural Gas Development from Marcellus Shale* (Geological Society of America, 2017).

⁹ The Land Access Framework currently consists of the *Land Access Code 2016* (Qld); the *Regional Planning Interests Act 2014* (Qld); *Gasfields Commission Act 2014* (Qld) and provisions of the *Petroleum and Gas Production and Safety Act 2004* (Qld) and the *Mineral and Energy Resources (Common Provisions) Act 2014* (Qld).

¹⁰ Land Access Review Panel, *Land Access Framework—12 Month Review Report of the Land Access Review Panel* (Queensland Parliament, February 2012) <<http://www.parliament.qld.gov.au/Documents/TableOffice/TabledPapers/2012/5412T341.pdf>>.

¹¹ Jostein Aarrestad, 'Resource Extraction, Financial Transaction and Compensation in an Open Economy' (1979) 81(4) *Scandinavian Journal of Economics* 552.

Land access negotiations and contractual arrangements between petroleum titleholders and landholders have been consistently complex and a pressing regulatory issue for Queensland since the commencement of UGR activities in the early 2000s. The management and regulation of the conflicting interests of UGR and agriculture was recently highlighted in the *Independent Review of the Gasfields Commission*:

Landholders expressed an overwhelming sense of powerlessness from the perceived imbalance in the land access framework and their inability to afford the legal and technical expertise necessary to understand the impacts on their land from CSG activities and to negotiate workable access arrangements and appropriate compensation.¹²

Therefore, land access agreement regulation and state intervention is justified to promote public policy objectives of information transparency and allocation of costs, as noted by Boulle et al.¹³ The question of petroleum exploration that arises in relation to land access is what is an effective regulatory tool and framework for the exploitation of petroleum to effectively manage landholder interests to ensure wealth generation while managing the social impact and interests of Queensland's agricultural landholders?

Landholders in Queensland are subject to State and provincial petroleum exploration regulation requiring access to State-owned UGR in private land. This is due to petroleum leases not creating an interest in land, but being classified as personal property in the common law Torrens title system of property, as explored in Chapter 3. As a fee simple landholder is able to control access onto their property, a breach is considered a tortious trespass. Therefore, an unauthorised entry onto a person's property requires statutory protection and leasing for the proponent. As stated by Boulle et al:

Petroleum statutes generally provide for compensation rights for owners of land including occupiers and fee simple owners of land in relation to the activities of titleholders on private land.¹⁴

¹²Robert P. Scott, *Independent Review of the Gasfields Commission Queensland and Other Associated Matters* (2016) 6.

¹³ Laurence Boulle, Tina Hunter, Michael Weir and Katherine Curnow, 'Negotiating Conduct and Compensation Agreements for Coal Seam Gas Operations: Developing the Queensland Regulatory Framework' (2014) 17(1) *The Australasian Journal of Natural Resources Law and Policy* 43, 43.

¹⁴ Ibid.

5.3 Landholder Negotiation and Compensation Agreements

The current regime for resource development in Queensland is one particular example of the use of statutory land access agreements. According to s 27(2) of the PGPSA, the State reserves an exclusive right to enter and carry out any petroleum-related activity or to authorise others to carry out a petroleum-related activity over land which, immediately prior to the resource title being issued, was owned by the state. Significantly, this statutory reservation allows the State to authorise others to carry out a petroleum activity, but does not expressly reserve any right for the State to authorise others to enter private land for any non-petroleum activity. The State reservation of petroleum resources creates potential conflicts regarding land access, as private landholders must negotiate access and compensation agreements with petroleum titleholders.

As previously examined in Chapter 3, differing regulatory processes exist in Queensland for preliminary activities and advanced activities. Preliminary activities are those involving little or no direct impact, such as walking on land, surveying the property or taking soil samples.¹⁵ The most pertinent point here is that there is no obligation to obtain the landholder's consent before preliminary activities can be undertaken and a titleholder is able to enter the land once the 10 business days have lapsed.

The requirement for entry notices¹⁶ was upheld in *O'Connor v Arrow (Daandine) Pty Ltd*,¹⁷ where the Supreme Court of Queensland confirmed that entry onto land was unlawful and the construction of a pipeline was restrained until a valid entry notice was served.¹⁸ Therefore, an agricultural landholder must continue to operate a business while preliminary activities take place on their lands, without recourse to compensation or an appeal to modify the terms of the entry notice conditions.¹⁹ However, an authorised activity carried out on the land that is less

¹⁵ Pursuant to sch 2 of the *Petroleum and Gas (Production and Safety) Act 2004* (Qld), a 'preliminary activity' means an 'authorised activity that will have no impact, or only a minor impact, on the business or land use activities of any owner or occupier of the land on which the activity is to be carried out'. Examples of preliminary activities are: 'walking the area of the permit or licence, driving along an existing road or track in the area, taking soil or water samples, geophysical surveying not involving site preparation, aerial, electrical or environmental surveying and survey pegging'.

¹⁶ As regulated by the *Mineral and Energy Resource (Common Provisions) Act 2014* (Qld) div 2.

¹⁷ *O'Connor v Arrow (Daandine) Pty Ltd* [2009] QSC 432.

¹⁸ *O'Connor v Arrow (Daandine) Pty Ltd* [2009] QSC 432, 48.

¹⁹ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) sch 2.

than 100 ha and used for intensive farming or broadacre agriculture²⁰ is classified as an advanced activity and may be entitled to compensation.

It is noted this carve-out does not apply to large agricultural properties over 100 ha, which remain classified as preliminary activities and do not require compensation. Further, an entry notice is not needed for the commencement of preliminary activities if the entry is authorised under the PGPSA for a resource authority, such as a petroleum authority to prospect or a CCA pursuant to the MERCPA which provides alternative obligations for entry or an opt-out agreement has already been entered into between parties.

By contrast, an advanced activity includes an authorised activity for the authority other than a preliminary activity which includes, for example, levelling of drilling pads and digging sumps and earthworks associated with pipeline installation.²¹ Before a petroleum titleholder can commence advanced activities on private land in Queensland, a petroleum titleholder must enter into a statutory agreement regarding access. Entering into a land access agreement is crucial for all parties as it promotes negotiation and discussion and, if effectively regulated, manages the potential for conflicting interests as it ensures that the parties have a coordinated the framework for land access.

A land access agreement seeks to outline how and when the land contained within the authority to prospect and under an exploration permit is to be accessed and how authorised activities are to be conducted and include provisions articulating the particulars of any access agreement. Therefore, the primary purpose of a land access agreement is to address the compensation liability of the affected landholder and define the agreed basis for compensation. There is no express restriction on the matters that may be included in a land access agreement, although its terms must not be inconsistent with the PGPSA and the mandatory provisions of the LAC.

²⁰ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) sch 2 provides the example of ;and used for dryland or irrigated cropping, plantation forestry or horticulture or a dairy, cattle or sheep feedlot, puffery or poultry farm as broadacre agriculture.

²¹ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) sch 2 provides the following examples of Advanced Activities:

- levelling of drilling pads and digging sumps
- earthworks associated with pipeline installation
- vegetation clear-felling
- constructing an exploration camp, concrete pad, sewage or water treatment facility or fuel dump
- geophysical surveying with physical clearing
- carrying out a seismic survey using explosives
- constructing a track or access road
- changing a fence line.

In 2010, the Queensland Government created the LAF, aiming to ‘foster improved relationships between the agriculture and resources sectors to set out consistent processes that are clear, fair and reasonable for all parties’.²² The authority to enter into private land, for a specified purpose such as for UGR exploration activities, is primarily managed through CCAs for advanced activities as defined in the PGPSA, MERCPA and LAF. The outlined policy objectives of the 2010 LAF included facilitation of improved relations between resource companies and landholders; providing a consistent, transparent and equitable process to facilitate access to private land for resource exploration and development; and defining a clear and consistent process to negotiate agreed terms for conduct of resource activities and compensation.²³ Key features of the LAF included:

- a requirement that all resource authority holders (RAHs) must comply with a single Land Access Code
- an entry notice requirement for ‘preliminary activities’ (i.e., those that will have no or only a minor impact on landholders)
- a requirement that, subject to certain exemptions, a CCA be negotiated before a RAH comes onto a landholder’s property to undertake ‘advanced activities’ (i.e., those likely to have a significant impact on a landholder’s business or land use).²⁴

The Land Access Review Panel reviewed the LAF in 2011 and delivered its findings in 2012 and 2014, finding the framework had ‘not achieved its policy objectives to the extent anticipated’²⁵ due to the complexity, conduct, compensation and diversity in land use and resource activities. Following the review, a Six Point Action Plan was established with regulatory priority actions established for the Queensland Government. The primary recommendations were 1) to review of heads of compensation in CCAs, 2) the Land Court jurisdiction to be expanded to review CCAs, and 3) allowing parties to opt-out of the LAF.²⁶ The terms of the opt-out agreement are discussed later in this chapter.

²² Queensland Government, *Guide to Queensland’s New Land Access Laws* (2010) <http://www.fof.org.au/uploads/media/landaccessguide_Nov2010.pdf>.

²³ Land Access Review Panel, *Land Access Framework—12 Month Review Report of the Land Access Review Panel* (Queensland Parliament, February 2012) <<http://www.parliament.qld.gov.au/Documents/TableOffice/TabledPapers/2012/5412T341.pdf>>.

²⁴ Queensland Government, *Queensland Government Response to the Report of the Land Access Review Panel* (2012) 2.

²⁵ Ibid.

²⁶ Ibid.

In 2013, the Land Access Implementation Committee delivered a subsequent report on the progress of the implementation of the Six Point Application Plan. The report did not iterate any substantial changes to the land access regime, rather, it focused on assessing the LAF and its effectiveness. After revising the recommendation to review the heads of compensation in CCAs, the Committee elected not to review the heads of compensation as planned, but as ‘landholder/resource authority holder negotiating practice is evolving naturally...the Committee argues it would not be prudent for the government to intervene to further legislate heads of compensation’.²⁷ It did, however, recommend education programs for all parties and greater transparency in the market to better inform the position of landholders in negotiating CCAs and balance negotiation power. It is noted that there was no guidance on what constitutes an ‘education program’ or a specific definition of ‘greater transparency in the market’. Hence, the LAF was general in nature and did not address the specific challenges Queensland landholders face when negotiating a land access agreement.

Secondly, in 2013, legislative changes were not expanded to include extended powers for the Land Court to make determination on matters relating to conduct and negotiations of CCAs. At this point, this was seen as a recommendation that would still require review. Thirdly, the opt-out policy allowing both parties, at the election of the landholder, to opt-out of a CCA was not yet in effect, but was planned as a legislative enactment and to ensure mandatory LAC provisions would still apply in this circumstance to avoid ‘regulatory short cuts’.²⁸ The recommendations of the Committee, while providing certainty in some areas, raised further questions which were marked for further consideration, if and when the Government chose to implement some or all of those recommendations. Therefore, the report did not recommend a fundamental shift in the law relating to negotiation processes and successive State Government administrations have been slow to implement recommendations.

For example, the Guide to Land Access, released in 2016, implemented some of the recommendations of the Committee’s recommendations, six years after the creation of the LAF. Along with the release of the guide was the enactment and operation of the MERCPA (operational from September 2016). Previously, CCAs were regulated by the individual resource Act applicable to the activity—for petroleum activities this was the PGPSA. The MERCPA was enacted to create an amalgamation and standardisation of a single framework

²⁷ Land Access Implementation Committee, Parliament of Queensland, *Land Access Implementation Committee Report* (30 August 2013)

<<http://www.parliament.qld.gov.au/Documents/TableOffice/TabledPapers/2014/5414T5893.pdf>> 2.

²⁸ Ibid, 6.

regulating previous land access provisions and CCA regulations. The MERCPA requires that it should be read and interpreted in conjunction with the relevant resource Act, in this context the PGPSA.²⁹ The MERCPA also makes broad amendments to key areas of the current resources legislation including:

- changes to the land access regime for resource authorities, including the restricted land regime
- a new overlapping coal and CSG tenure framework (Overlapping Tenement Regime)
- standardisation of provisions relating to dealings, caveats and associated agreements.

As the MERCPA has been operational for just over a year, it is not possible to ascertain how the PGPSA and MERCPA will work alongside each other in the face of inconsistent or overlapping regulations of CCAs. As recognised by Weir, ‘Until that issue is resolved the unfortunate position appears to be that reference to both acts is required to determine when compliance with the PGPSA is impossible or if both statutes need to be satisfied’.³⁰

The primary purpose of the MERCPA is to implement the 2012 LAF recommendations to expand the Land Court’s jurisdiction over CCAs and enact opt-out agreements as an alternative to CCAs to improve the private land access framework.³¹ The effectiveness of MERCPA and the recommended reforms provide the opportunity to measure the Queensland Government’s policy goal of ‘establishing greater certainty through the reduction of the complexity, volume and duplication contained within existing regulations for the resources industry’.³²

Pursuant to s 45 of the MERCPA, the introduction of opt-out agreements is intended to provide greater flexibility in the management of relationships between landholders and RAHs, particularly in situations where parties already have an existing relationship. Further, the MERCPA allows for the creation of deferral agreements which allows the parties to defer the creation of a CCA until a later date as agreed by the parties and after the resource company has accessed the land to undertake advanced activities. This provision has not as yet been tested through litigation, but the intent is clear. Allowing petroleum titleholders to defer creation of a CCA appears to create greater uncertainty for landholders and gives permission

²⁹ *Mineral and Energy Resource (Common Provisions) Act 2014* (Qld) s 6.

³⁰ Michael Weir, ‘Granting of Shale Gas Licences, Land Access and Property Rights in Australia’, in Tina Hunter, *Handbook of Shale Gas Law and Policy* (Intersentia, 2016) 149.

³¹ *Mineral and Energy Resources (Common Provisions) Bill 2014*, Explanatory Memorandum (2014), 2.

³² *Mineral and Energy Resources (Common Provisions) Bill 2014*, Explanatory Memorandum (2014), 1.

to titleholders to continue activities without the protection of an agreed set of conditions to access land and compensation to landholders. Further, there is provision for an access agreement to allow access by a titleholder to land outside the petroleum authority to access petroleum authority land.³³ This may impact landholders' access to their lands, if it is deemed that the land in question is required to maintain access to UGR.

An opt-out agreement provides an alternative to entering into a CCA or a Deferral Agreement. It is a legally binding arrangement between a landholder and resource company where the landholder agrees to opt-out of negotiating a CCA.³⁴ However, a resource company is exempt from 10 day entry notice requirements where a landholder and the resource company have entered into an opt-out agreement or CCA and there is no statutory negotiation process or dispute resolution process, as the Land Court will not be able to examine the issue of compensation liability.³⁵ Given these provisions, a CCA is arguably the preferable option to the opt-out agreement process which is not subject to any review, determination or appeal mechanism by the Land Court.

As examined above, the MERCPA establishes separate processes for resource companies to obtain access to land depending on the nature of the planned activities. In contrast to access to land for preliminary activities, the PGPSA, LAC and MERCPA place greater obligations on petroleum companies before access may be obtained for advanced activity. Advanced activities, as previously examined, are authorised activities with significant impact on the business or land use activities of any owner or occupier of the land on which the activity is to be carried out.³⁶ The parties are obliged to negotiate an access agreement with an owner or occupier within 20 business days. If an owner or occupier has not made an access agreement within 20 business days, the owner or occupier is taken to have refused the agreement. An owner or occupier must not, however, 'unreasonably refuse' to make an access agreement.³⁷ This is ill-defined in the Act and is yet to be tested. A person also may not enter into private land to carry out an advanced activity for a resource authority, unless each owner and occupier holds a CCA, deferral agreement or opt-out agreement.³⁸

³³ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) ss 502-536.

³⁴ *Mineral and Energy Resource (Common Provisions) Act 2014* (Qld) s 45.

³⁵ *Mineral and Energy Resource (Common Provisions) Act 2014* (Qld) s 45.

³⁶ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) sch 2.

³⁷ *Mineral and Energy Resource (Common Provisions) Act 2014* (Qld) s 48.

³⁸ *Mineral and Energy Resource (Common Provisions) Act 2014* (Qld) s 43.

Before negotiations commence in relation to a CCA, the PGPSA requires that notice of negotiations be given to the parties, comprising the petroleum titleholder and the eligible compensation claimant. Negotiation of a CCA consists of three distinct stages. First, the negotiation of a CCA between a RAH and landholder commences as regulated by the LAC by serving a notice of intention to negotiation for a minimum of 20 business days. Second, if the agreement of a CCA cannot be reached, a conference held by the Department of Natural Resources and Mines may be held for alternative dispute resolution (ADR) by an appropriately qualified person independent of the State.³⁹ Finally, the parties may apply to the Land Court for determination as to compensation and CCA terms.⁴⁰

The MERCPA duplicates the previous s 502 of the PGPSA in distinguishing between private land within the area of petroleum authority as ‘authority land’ and private land outside of the petroleum authority area that a petroleum titleholder may reasonable need to cross over to enter the authority land as ‘access land’ according to a resource authority. ‘Access rights’ over ‘access land’ include the right to cross the access land if it is reasonably necessary to allow the titleholder to enter the authorised area and carry out activities on the that land, if the occupier of the land has agreed orally and in writing to the exercise of the rights.⁴¹ According to s 48 of the MERCP, an owner or occupier of access land must not, if asked by a RAH, ‘unreasonably refuse’ to make an access agreement with the holder. Further, if an owner or occupier has not made an access agreement within 20 business days after being asked to make the agreement by a RAH, the owner or occupier is taken to have refused to make the agreement.⁴²

A RAH landholder must ‘use all reasonable endeavours to negotiate’ a CCA or a Deferral Agreement with each owner and occupier of private or public land on which UGR activities are proposed to be carried out or are being carried out.⁴³ ‘Reasonable endeavours’ is not defined in the MERCPA and, as such, there is no defined legal review relating to the requirement to manage the issues that may inevitably arise in negotiation. For example, ‘reasonable’ to an agricultural landholder may suggest that the negotiation takes into consideration the ‘dignity and input of generations into the family farm’.⁴⁴ These issues are

³⁹ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 734C.

⁴⁰ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 983.

⁴¹ *Mineral and Energy Resources (Common Provisions) Act 2014* (Qld) s 47.

⁴² *Mineral and Energy Resources (Common Provisions) Act 2014* (Qld) s 48(3).

⁴³ *Mineral and Energy Resources (Common Provisions) Act 2014* (Qld) s 85. This standard has been taken from the previous s 153 of the *Petroleum and Gas (Production and Safety) Act 2004* (Qld).

⁴⁴ Boulle, et.al, above n 13, 74.

intangible and not within the remit of the current MERCPA and there is no test of ‘reasonableness’ that can assist in defining what is meant by this term. The Select Committee on Unconventional Gas Mining is critical of this broad standard and Queensland’s LAF in stating it ‘not only highlights the lack of power and support landholders feel in relation to land access, it also indicates the overall level of complexity associated with land access involving unconventional gas mining’.⁴⁵ The LAC refers to ‘good faith’ negotiations when entering a land access agreement.⁴⁶ The standard of good faith, while again vague and ill-defined, is useful when interpreting the meaning of ‘reasonable endeavours’. Section 5.3.2 discusses the LAC and the commonly used benchmark of good faith negotiations in greater detail.

5.3.1 Conduct and Compensation Agreements

Negotiation between the petroleum titleholder and the landholder is required as a process designed to balance the business and related interests of the respective parties before a titleholder can enter the landholder’s land to undertake advanced activities that have a significant impact on the landholder’s use of the land. The content of CCAs is partly structured through the LAC incorporated guidelines setting out standard requirements. However, a CCA is a compensation agreement unenforceable to the extent it is inconsistent with the PGPSA or the LAC.⁴⁷ For example, the holder of an authority to prospect need not enter into a CCA if the holder already has a right to enter the land. Entry is to preserve life or property or because of an emergency that exists or may exist, or the landholder is an applicant or respondent to a Land Court application to determine compensation.⁴⁸

In the event that a CCA is agreed upon by both parties, the RPIA exempts this circumstance from requiring a RIDA approval. In effect, this removes CCAs from the regulatory scope of the RPIA in circumstances that cover PAAs. If parties cannot negotiate a land access agreement, either may apply to the Land Court for review of compensation that has been agreed or determined, where the material circumstances have changed since that date of agreement or determination.⁴⁹

⁴⁵ Senate Select Committee on Unconventional Gas, Parliament of Australia, *Inquiry into Unconventional Gas Interim Report* (2016) 23.

⁴⁶ Land Access Code 2016, 2.

⁴⁷ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 533(2).

⁴⁸ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 500A(a),(e),(f).

⁴⁹ *Mineral and Energy Resources (Common Provisions) Act 2014* (Qld) s 96.

The PGPSA does not restrict the terms or conditions of the CCA. However, a CCA must address the compensation liability that is owed by the holder of the petroleum authority to the landholder for any ‘compensatable effect’, including:

- deprivation of the possession of the land’s surface
- diminution of the land’s value
- diminution of the use made of the land or any improvement on it
- severance of any part of the land from other parts of the land or from other land of the landowner
- any cost, damage or loss arising from the carrying out of authorised activities on the land.⁵⁰

A CCA may cover both monetary and non-monetary forms of compensation⁵¹ and accounting, legal and valuation costs necessarily and reasonably incurred by the landholder in negotiating the agreement.⁵²

The MERCPA prohibits landholders or occupiers from unreasonably refusing to make an access agreement with a RAH 20 business days after being asked to make an agreement.⁵³ The RAH or landholder may then apply for determination of the Land Court to decide the access agreement and in determining whether access to land is reasonable.⁵⁴ However, the Land Court may only vary an access agreement if there has been a ‘material change in circumstances’ since the initial grant of the CCA. Materiality has been defined as ‘of moment or of significance, not merely trivial or inconsequential. If reliance is placed on a change in amenity, the impacts must be more than minimal’.⁵⁵ The Land Court will then consider reviewing compensation to a ‘reasonable amount to fairly compensate the landholder, in light of the character, duration and frequency of the change in circumstances’.⁵⁶ A ‘material change’ in circumstances is generally applied to the effect of the activity and is the focus of any appeal of CCA compensatory provisions as to whether there has been any change in

⁵⁰ Samantha Hepburn, *Mining and Energy Law* (Cambridge University Press, 2015) 199.

⁵¹ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 543(2)(b)(i).

⁵² *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 532(4)(b).

⁵³ *Mineral and Energy Resources (Common Provisions) Act 2014* (Qld) s 48.

⁵⁴ *Mineral and Energy Resources (Common Provisions) Act 2014* (Qld) ss 49, 50.

⁵⁵ *Nothdurft & Anor v QGC Pty Limited & Ors* [2017] QLC 4, 28. See also *Devon CC v Allens Caravans (Estates) Ltd* (1962) 14 P&CR 440, 441; *East Barnet Urban DC v British Transport Commn* [1962] 2 QB 484, 490.

⁵⁶ *Nothdurft & Anor v QGC Pty Limited & Ors* [2017] QLC 4, 153. See *Mineral and Energy Resources (Common Provisions) Act 2014* (Qld) s 53.

compensatable effects not addressed by the original compensation. If there has been, and the change is significant or important, then grounds will exist for a review.

The definition and scope of the concept material change in circumstances was addressed in the recent landmark case *Nothdurft & Anor v QGC Pty Limited & Ors* [2017] QLC 4. *Nothdurft* represents the first time the Land Court has accessed the new MERCPA powers, pursuant to the OGC recommendations, to determine and amend compensation in CCAs due to a ‘material change in circumstance’. In *Nothdurft*, the plaintiffs sought a determination to recognise the actual impacts and future impacts of the CSG activities on their property. The Land Court held that there had been a ‘material change in circumstances’ since the initial CCA between the plaintiffs and QGC occurred in 2006.⁵⁷ The property concerned in the case consisted of a 348.9 ha beef cattle property and manure spreading business in Chinchilla, Queensland. On and around the property are 36 UGR wells, 17 high point vents, three flaring locations and two Field Compression Stations are regulated by two petroleum leases, one EA and a CCA.

In interpreting the meaning of a ‘material change in circumstances’ as an:

increase in scale or intensity, a change to the way the activity is conducted, or an unanticipated (or unauthorised) impact of the activity might result in a material change to the compensatable effect of the activities...must be of moment or of significance, not merely trivial or inconsequential. If reliance is placed on a change in amenity, the impacts must be more than minimal.⁵⁸

The Land Court awarded the landholders an amount of A\$60,500 by way of additional compensation for the material change in substances arising from some exceedance of noise conditions in the CCA, representing a portion of the their total claim⁵⁹ of A\$150,000 in additional compensation. The importance of the *Nothdurft* decision lies in the Land Court’s definition of a material change in circumstances. To trigger the Court’s review function, the Land Court held that the change must be material to the compensation agreement. This

⁵⁷ QGC’s activities on the property are part of a coal seam gas project known as QCLNG Project. That project entails gas extraction from coal seams in the Surat Basin. The gas is piped to local compression and processing facilities and then transported by an underground pipeline network to Curtis Island near Gladstone. There, the gas is turned into liquefied natural gas for export markets. *Nothdurft & Anor v QGC Pty Limited & Ors* [2017] QLC 4, 6.

⁵⁸ *Nothdurft & Anor v QGC Pty Limited & Ors* [2017] QLC 4, 26-28.

⁵⁹ The plaintiffs alleged a material change in circumstances due to: Non-compliance with noise limits; Discontinuance of untreated CSG water supply; Gases emitted; Incorrect well locations; Owners’ time and resources responding; Dust - contamination of rainwater tanks; Perceived health risks in living in or around this gasfield; Need to relocate place of residence and relocate Western Downs Spreading and Contracting office and depot. *Nothdurft & Anor v QGC Pty Limited & Ors* [2017] QLC 4, 41.

requires ‘a focus on effect rather than activity’.⁶⁰ Thus, a change that does not result in any change to the compensatable effects suffered by the landholder will not be reviewable under the MERCPA. Not every change in compensatable effect will be reviewable. The change must be ‘material’ to the agreement about compensation—that is, of significance or importance and not merely trivial or inconsequential. If reliance is placed on change in amenity (as was the case in *Nothdurft*) the impacts must be more than minimal.

As evident in *Nothdurft*, The Land Court’s review will be limited to identifying the compensatable effect attributable to any material change and determining whether additional compensation is justified in respect of that change. Identifying a material change will not provide a basis for a wholesale review of the compensation originally agreed between the parties. At this stage, there is no clear definition of ‘minimum’ or ‘significant or important’. For example, the effect on the land of a major UGR installation (such as a flaring facility) is minimal, however, the cumulative effects on the landholders via noise, traffic and intrusion on their lands has not been incorporated into the judgement.

Shortcomings in the CCA framework were also revealed in the recent case *Australia Pacific LNG Pty Ltd v Golden & Ors*.⁶¹ The case concerned APLNG who sought access to two properties west of Wandoan for the purpose of drilling, constructing and operating a number of petroleum wells, associated infrastructure and flow lines on each property. After unsuccessful negotiations, APLNG issued formal negotiation notices under the negotiated access and compensation regime of the PGPSA. The parties were unable to reach agreement within the set negotiation period (20 business days following the issue of the negotiation notices). Accordingly, after expiry of that period, the landholders issued an election notice, nominating for the negotiations to be referred to arbitration for resolution.⁶² Muir JA granted the injunction to withhold the landholders from forcing APLNG to attend arbitration to settle on terms of the land access. However, as the parties signed a CCA after the granting of the injunction, the Court of Appeal was not required to make a determination due to the interpretation and inconsistency of provisions in the MERCPA concerning ADR.⁶³

⁶⁰ *Nothdurft & Anor v QGC Pty Limited & Ors* [2017] QLC 4, 28.

⁶¹ *Australia Pacific LNG Pty Ltd v Golden & Ors* [2013] QCA 366.

⁶² *Petroleum and Gas (Production and Safety) Act 2004* (Qld) s 537A.

⁶³ *Australia Pacific LNG Pty Ltd v Golden & Ors* [2013] QCA 366. Queensland Parliamentary Committee, *Mineral and Energy Resources (Common Provisions) Bill 2014*, (Report No. 46 Agriculture, Resources and Environment Committee) 42.

This confusion is created because the notice given under s 88 of the MERCPA apparently contemplates the parties agreeing to an ADR process, whereas the requirement under s 90 of the MERCPA for the parties to ‘use reasonable endeavours’ to finish the ADR process and the right to apply to the Land Court under s 96 of the MERCPA both operate by reference to the expiry of a period after delivery of the election notice. Neither of the latter provisions expressly requires agreement on the ADR process to have been reached or the other party to attend. Further confusion is created by inconsistency between the intent of the legislation and the provisions seeking to give effect to that intent. As Muir JA recognised, the MERCPA appears to be directed towards requiring parties to reach a negotiated agreement (through ADR, if required) and, failing that, for the Land Court to determine compensation. However, the legislation provides an example of a form of ADR (namely arbitration) that is not directed towards facilitating negotiations, but which can instead result in a quasi-judicial determination of rights between parties, potentially in their absence, with very limited rights of appeal.⁶⁴

In relation to compensation and land access amounts, in *C.M. Fitzgerald & Anor v Struber & Anor*,⁶⁵ Member PA Smith determined compensation in respect of mining areas at an annual rate of \$10/ha per year and access areas at \$5/ha per year for the current landowners. In the later case of *Eacham Abrasive Blasting Pty Ltd v Gundersen & Anor*,⁶⁶ Member Smith granted compensation sums of \$10/ha per year for the area covered by mining and \$5/ha per year for access in respect of the renewal of a mining lease in the Mareeba area. *Wallace & Ors v Bottomer & Ors*⁶⁷ and *Pryce v Stuber & Anor*⁶⁸ determined compensation for the mining area in question be payable at \$10/ha per year in respect of the mining area and \$5/ha per year in respect of the access area.⁶⁹

It is important to note that, with the exception of *Nothdurft*, current case law concerning compensation and land access concern mineral tenements rather than petroleum tenements. To date, there is limited case law of UG CCA compensation in Queensland, however, the similarity between compensation provisions in the MRA Act and PGPSA reflect the low compensation figures provided in these cases. This is instructive and demonstrates the judicial

⁶⁴ James Plumb and Andrew Shute, *Negotiated access to land in Queensland – is this the end of ADR?* (2014) <http://www.carternewell.com/page/Publications/Archive/Negotiated_access_to_land_in_Queensland_is_this_the_end_of_ADR/>.

⁶⁵ *Fitzgerald & Anor v Struber & Anor* [2009] QLC 0076.

⁶⁶ *Eacham Abrasive Blasting Pty Ltd v Gundersen & Anor* [2014] QLC 38.

⁶⁷ *Wallace & Ors v Bottomer & Ors* [2015] QLC 23.

⁶⁸ [2016] QLC 1.

⁶⁹ A discussion concerning the application of ‘good faith’ as a standard for effective negotiation of land access agreements is found within Section 5.3.2 of this Chapter below.

interpretation applicable to the LAF, which does not recognise the cumulative impacts to landholders and the ‘aversion (to UGR activities) in the rural property market’.⁷⁰

5.3.2 The Land Access Code 2016 (Qld)

According to s 804 of the PGPSA, a person who carries out an authorised activity for a petroleum authority must not unreasonably interfere with anyone else carrying out a lawful activity. To ensure this duty is carried out, the LAC was introduced in 2010 to provide a voluntary ‘best practice’ guide for CCA negotiations and mandatory provisions concerning the conduct of authorised activities on private land. The stated intention of the LAC is to balance the interests of the agricultural and resources sectors including through best practice guidelines for effective regulation and ‘good faith’ between operators and the owners/occupiers of private land.⁷¹

According to s 36 of the MERCPA,

A regulation may make 1 or more codes for all Resource Acts (each a land access code) that—

(a) states best practice guidelines for communication between the holders of resource authorities and owners and occupiers of land, public land authorities and public road authorities; and

(b) imposes on resource authorities mandatory conditions concerning the conduct of authorised activities on land.⁷²

Where there is a requirement to negotiate in good faith, ‘good faith’ encompasses ‘the notion of fidelity (or faithfulness) to the bargain’.⁷³ As stated by Allsop P:

A promise to negotiate ... genuinely and in good faith with a view to resolving claims to entitlement by reference to a known body of rights and obligations, in a manner that respects the respective contractual rights of the parties, giving due allowance for honest and genuinely held views about those pre-existing rights is not vague, illusory or uncertain.⁷⁴

⁷⁰ *Peabody West Burton Pty Ltd v Mason* [2012] QLC 0023.

⁷¹ *Land Access Code* (2016) pt 2.

⁷² ‘Resource Acts’ means the *Mineral Resources Act 1989* (Qld), *Petroleum and Gas (Production and Safety) Act 2004* (Qld), *Petroleum Act 1923* (Qld), *Geothermal Energy Act 2010* (Qld) and the *Greenhouse Gas Storage Act 2009* (Qld).

⁷³ Jack O’Connor, ‘The Enforceability of Agreements to Negotiate in Good Faith’ (2010) 29(2) *University of Tasmania Law Review* 177, 202.

⁷⁴ *United Group Rail Services v Rail Corporation of New South Wales* [2009] NSWCA 177, 639.

There are certain inherent difficulties when discussing the concept of ‘good faith’ which relate primarily to the role of the state. On one hand, the state is owner of the public asset (UGR) and the grantor of the interest in land to a petroleum titleholder and recipient of royalties that this activity will produce. On the other hand, the state also has an obligation to represent the interest of private landholders under whose land the UGR asset is situated. This potential conflict of interest has been observed in numerous qualitative studies⁷⁵ and the National Office of the Chief Economist *Review of the Socioeconomic Impacts of Coal Seam Gas in Queensland*⁷⁶ resulted in the recommendation that ‘Regulation of the (UGR) sector should support coexistence, including ensuring that the landholder’s agreement is sought for access to their property, that landholders are fairly compensated, and that prime agricultural land and water resources are not compromised by development activity’.⁷⁷

The aim of providing fairness for landholders may provide the impetus to establish an independent regulatory tool to provide assistance and appellant applications for landholders to navigate the ‘good faith’ requirement in this difficult and complex regulatory regime.⁷⁸ This is proposed to manage the generality, relatively scarce regulatory framework and lack of significant conduct standard for the parties. One option is to adopt a principles-based, independent regulatory tool to address any disadvantages facing landholders that currently exist under MERCPA, which may be construed as favouring petroleum titleholders.

A review of the previous *Land Access Code 2010* (Qld), in accordance with the LAF review process, included comments from landholders and companies who believed that limited outcomes were achieved through dispute resolution:

There is little incentive for good faith negotiations or timely resolution of a dispute. Stakeholders noted that, where negotiations broke down, the process tended to drag on indefinitely, frustrating all involved and costing time and money...landholders indicated they were generally more concerned about the conduct of resource companies on their property as it relates to their business rather than just the issue,

⁷⁵ Cindy Chen and Alan Randall, ‘The Economic Contest Between Coal Seam Gas Mining and Agriculture on Prime Farmland: It May Be Closer than We Thought’ (2013) 15(3) *Journal of Economic and Social Policy* 1; Phil McManus and Linda H. Connor, ‘What’s mine is mine(d): Contests over marginalisation of rural life in the Upper Hunter, NSW’ (2013) 22(2) *Rural Society* 166.

⁷⁶ Department of Industry, Innovation and Science (Cth), Office of the Chief Economist, *Review of the Socioeconomic Impacts of Coal Seam Gas in Queensland* (Commonwealth of Australia, 2015) <<https://industry.gov.au/Office-of-the-Chief-Economist/Publications/Documents/coal-seam-gas/Socioeconomic-impacts-of-coal-seam-gas-in-Queensland.pdf>>.

⁷⁷ *Ibid*, 2.

⁷⁸ Boulle, et.al, above n 13, 2.

per se, of compensation. In summary, stakeholders did not see the Land Court as a viable, timely and cost-effective way to resolve disputes.⁷⁹

The LAF review also revealed that stakeholders requested further guidance as to what constitutes negotiating in ‘good faith’.⁸⁰ DEEDI-authorised officers undertaking conferences in dispute resolution were criticised as inadequately trained for mediation or other dispute resolution methodologies, limiting the value of this part of the process. A number of recommendations were received by the LAF review to ‘require that only trained and accredited mediators undertake conferences and implementing an arbitration process that is binding rather than a guiding mediation that may not result in an outcome’.⁸¹ The key criticism of ADR in the land access process is that ‘there is no decision making power vested in the DEEDI officer or person holding the ADR, therefore there is no certainty of an outcome’.⁸²

The Association of Mining and Exploration Companies states:

Landholder rights relate to the use of the surface of the land. However access to those mineral rights often means infringing on the rights of the landholder. Therefore, negotiation between the owner of the mineral rights and the landholder rights takes place such that the infringement on the right is appropriately compensated.⁸³

The Queensland Resource Council noted the previous *Land Access Code 2010* (Qld) focused on maximising compensation rather than building effective working relationships in good faith:

Unfortunately, a perverse outcome of Queensland’s land access laws is that the land access process has become focused on maximising compensation with little priority on building effective working relationships to ensure there is a minimal impact on the landholder business or enjoyment of the land.⁸⁴

The imbalance in bargaining position under the current state laws was also noted by the NFF, which stated:

⁷⁹ Land Access Review Panel, *Land Access Framework 12 Month Review Report* (2012)

<https://www.dnrm.qld.gov.au/__data/assets/pdf_file/0004/193090/land-access-review-panel-report.pdf> 12.

⁸⁰ Ibid.

⁸¹ Ibid, 18.

⁸² Ibid, 11.

⁸³ AMEC, Submission No 34 to Productivity Commission, *Inquiry Into The Non-Financial Barriers To Mineral And Energy Resource Exploration*, March 2013, 8.

⁸⁴ Queensland Resources Council, Submission No 13 to Productivity Commission, *Inquiry into the non-financial barriers to mineral and energy resource exploration*, 2013, 3.

The NFF's view is that a forced negotiation, where the landholder does not have the option to refuse an agreement, is not an equal or fair negotiation. Fixed outcome negotiation provides an unfair advantage to well-resourced mining and gas companies, which employ skilled professionals to negotiate these types of agreements on a regular basis.⁸⁵

It is noted that there is rare agreement and accord between bodies involved in UGR exploration, including the Association of Mining and Exploration Companies and NFF. However, both these bodies agree that the current regime is inadequate in representing the interests of landholders. The purpose of the updated version of the LAC is to 'balance the interests of the agricultural and resource sectors to address issues related to land access for resource exploration and development'.⁸⁶

The LAC provides generalised guidelines for resource Acts, pursuant to the MRA Act, PGPSA, PA Act, *Geothermal Energy Act 2010* and the *Greenhouse Gas Storage Act 2009*, in a broad 'one size fits all' regime for tenement holders and prospective tenement holders seeking to obtain access to landowner properties for the purpose of exploration and extraction.⁸⁷ Therefore, the LAC is not formulated to manage the unique needs of agricultural landholders and CSG petroleum tenement holders.

The LAC contains two key sections—'Good Relations' is based on general voluntary principles for communications between parties, negotiation agreements, communication before and during the carrying out of activities and after completion activities;⁸⁸ and Mandatory Conditions on activities conducted under the resource authority in Part 3. Mandatory Conditions of the LAC include induction training for staff and contractors; using existing access points, roads and tracks if possible on a property; minimising disturbance to people, livestock and property; taking reasonable steps to ensure there is no spread of weeds and pests; prior agreement of camp locations; collecting rubbish or waste produced in carrying out authorised activities; and closing gates grids and fences.⁸⁹

The LAC is limited in specific detail and guidelines to assist resource companies and landowners in resolving conflicts in a situation when land access is contested. Rather, it provides a general framework of principles for land access agreement based on general

⁸⁵ National Farmers Federation, Submission 171 to Select Committee on Unconventional Gas Mining, *Inquiry into Unconventional Gas Mining*, 14 March 2016, 3.

⁸⁶ *Land Access Code* (2016) pt 1.

⁸⁷ *Land Access Code* (2016) pt 2.

⁸⁸ *Land Access Code* (2016) pt 1.

⁸⁹ *Land Access Code* (2016) pt 2.

principles of ‘good faith’, ‘adequate consultation and negotiation’, ‘transparency’ and ‘cooperation’:

Good relationships between these groups, assisted by adequate consultation and negotiation, will improve transparency, equity and cooperation across the sectors involved and creates a more level playing field for all.⁹⁰

The framework to manage negotiation of CCAs is limited to a paragraph in the LAC:

Agreements between the landholder and holders should clearly articulate what has been agreed to between the parties and comply with the relevant resource Acts. In the course of negotiations, the parties should endeavour to stay in regular contact and work together to reach a mutually acceptable and practical agreement.⁹¹

Resource companies must ‘minimise disturbance’ to people and a landholder’s livestock and property, although no further guidance is given as to what constitutes ‘minimal disturbance’.

The LAC also states:

(1) If, in carrying out authorised activities, a relevant person becomes aware of any potential adverse impact, caused by the activities, on a landholder’s livestock or property, the relevant person must immediately notify the landholder of the potential impact;

(2) If a relevant person injures or kills a landholder’s livestock, the relevant person must immediately notify the landholder of the injury or death of the livestock; and

(3) If a relevant person damages a landholder’s property, the relevant person must—

(a) Immediately notify the landholder of the damage; and

(b) Repair the damage as soon as practicable.⁹²

Therefore, a resource holder must ‘immediately notify’ a landholder where the activity holds a potential adverse impact, rather than prohibiting the authorised activities to take place, where adverse impacts are likely to people, livestock or property. A resource holder must only immediately notify the landholder of the injury or death of livestock, rather than providing any adequate compensation for the damage caused.

⁹⁰ *Land Access Code* (2016) pt 1.

⁹¹ *Land Access Code* (2016) pt 2 s 6.

⁹² *Land Access Code* (2016) pt 2 s 14.

This is a key element of concern for agricultural landholders, particularly dairy and other husbandry farmers. Further, if damage is inflicted to landholder's property, the resource holder must immediately notify and repair the damage. No guidance is given on the extent of repair and whether rehabilitation must take place to ensure the landholder's property is repaired to its original state prior to resource activities. There is also no definition of 'as soon as reasonably practical'.⁹³

The LAC is a generalised approach to land access as it applies to all types of resource companies and, therefore, does not consider the specific environment and the contested nature of land access agreements with CSG petroleum tenement holders. Land access has historically been the subject of dispute between resource companies and agricultural landowners. As stated by Nader QC:

If the law is to proceed on the basis that it does now, namely no agreement then arbitration, this thing is not going to make any difference to it...The hard, cold bottom line is still what it always has been. As long as the act contains these arbitration clauses, farmers are virtually at the mercy of the miners.⁹⁴

Although the LAC provides a unique and aiding approach for land access agreements in providing 'best practice' guidelines for petroleum titleholders, it does not place any statutory requirements on landholders.⁹⁵ During the *Land Access Review Report of 2012*, it was recommended that more stringent requiring on obligations on landholders and petroleum titleholders is introduced in relation to timely responses to notification requests and defining 'good faith' negotiations.⁹⁶

The general voluntary principles found in Part 2 of the LAC concerning good relations between parties including advising the landholder of any significant changes to operations or timing, promptly paying compensation agreed with the landholder and being responsible for all authorised activities and actions being undertaken by employee. This is intended to ensure mandatory regulations concerning negotiation procedure will be enforced.⁹⁷ Although the LAC is based on achieving transparent and effective land access agreements, the lack of enforcement and compliance via mandatory provisions create a lack of enforcement by

⁹³ *Land Access Code* (2016) pt 2 s 14.

⁹⁴ ABC News, 'New Land Access Code described as a 'con'' (15 January 2014) *ABC News* (online) <<http://www.abc.net.au/news/2014-01-16/new-land-access-agreement-code-described-as-a-27con27/5202442>>.

⁹⁵ *Land Access Code* (2016).

⁹⁶ Land Access Review Panel, above n 79, 46.

⁹⁷ Queensland Government, Department of Natural Resources and Mines, *Land Access Code* (2016) 41.

government agencies. Further, petroleum titleholders are not adequately informed of their obligations in accessing land and how to ensure compliance with LAC mandatory provisions as there is no enforcement of its provisions.

5.3.3 Conduct and Compensation in British Columbia

In British Columbia, the longstanding land access regime for petroleum, mineral and pipeline development is contained in the PNGA.⁹⁸ The PNGA, similar to Queensland, provides for compensation for landholders affected by UGR activities. However, unlike the regulation of CCAs by the Department of Natural Resources and Mines in Queensland, the PNGA is administered by the SRB, a quasi-judicial statutory authority. The PNGA s 17 regulates entry onto private land and prohibits entry, occupation or use of land to:

- a) to carry out an oil and gas activity
- b) to carry out a related activity, or
- c) to comply with an order of the OGC, unless the entry, occupation or use is authorised under:
- d) a surface lease with the landowner in the form prescribed, if any, or containing the prescribed content, if any, or
- e) an order of the (Surface Rights) board.⁹⁹

When the petroleum titleholder cannot acquire consent and a surface lease by the landholder as required by s 17 of the PNGA, the operator may apply to the SRB, as a Mediation and Arbitration Board,¹⁰⁰ with broad jurisdiction over determinations of compensation of any surface lease, license, permit, authorisation or other contract.¹⁰¹ Similar to Queensland, a person may not enter, occupy or use land to carry out geophysical exploration, the equivalent to preliminary activities, unless the person has entered into an agreement with the owner of the land authorising the entry, occupation or use.¹⁰² Once more advanced activities such as building roads, drilling wells or laying pipelines commence, a petroleum titleholder must negotiate a surface lease with the private landholder.

⁹⁸ *Petroleum and Natural Gas Act*, RSBC 1996, c 361.

⁹⁹ *Petroleum and Natural Gas Act*, RSBC 1996, c 361, s 142.

¹⁰⁰ *Petroleum and Natural Gas Act*, RSBC 1996, c 361, according to s 146(1), The Mediation and Arbitration Board is continued as the Surface Rights Board consisting of up to 9 individuals appointed as follows by the Lieutenant Governor in Council after a merit-based process.

¹⁰¹ *Petroleum and Natural Gas Act*, RSBC 1996, c 361, s 146(3).

¹⁰² *Petroleum and Natural Gas Act*, RSBC 1996, c 361, s 154.

The criteria for determining an amount of compensation to be paid by a UGR titleholder periodically or otherwise, the SRB may consider, without limitation, the following issues:

- a) the compulsory aspect of the right of entry
- b) the value of the applicable land
- c) a person's loss of a right or profit with respect to the land
- d) temporary and permanent damage from the right of entry
- e) compensation for severance
- f) compensation for nuisance and disturbance from the right of entry
- g) the effect, if any, of one or more other rights of entry with respect to the land
- h) money previously paid for entry, occupation or use
- i) the terms of any surface lease or agreement submitted to the board or to which the board has access
- j) previous orders of the board
- k) other factors the board considers applicable
- l) other factors or criteria established by regulation.¹⁰³

In determining the amount of compensation, the SRB may consider any change in the value of money and of land since the date of the grant of the surface lease.¹⁰⁴ Further, the appeals process is outlined in s 155 of the PNGA, whereby the SRB, on its own motion or on application, may reconsider an order of the board and may confirm, vary or rescind the order.

The SRB provides a mediation and arbitration service for UGR titleholders and landholders unable to agree to the terms of access of a service lease by the landholder or UGR company.¹⁰⁵ A corresponding order made once the SRB has mediated a dispute is a Right of Entry Order which authorises the right of entry, subject to the terms and conditions specified in the order, and must, as a condition of the order, require the person who is seeking the right of entry to pay to the landowner, on account of rent, if any, or compensation.¹⁰⁶

The PNGA contains detailed provisions on initial compensation for land access and also for the review of initial compensation orders and compensation for additional damage caused during operations. Division 6 outlines the process whereby the SRB may require additional

¹⁰³ *Petroleum and Natural Gas Act*, RSBC 1996, c 361, s 154(1).

¹⁰⁴ *Petroleum and Natural Gas Act*, RSBC 1996, c 361, s 154(2).

¹⁰⁵ *Petroleum and Natural Gas Act*, RSBC 1996, c 361, s 158.

¹⁰⁶ *Petroleum and Natural Gas Act*, RSBC 1996, c 361, s 159(4).

compensation where a) the exercise of the right of entry causes damage to the land or other land of the owner or occupant or causes loss to the owner or occupant, or b) it is the owner or occupant of land immediately adjacent to land that is subject to a right of entry and the exercise of the right of entry causes damage to the adjacent land or causes loss to the owner or occupant.¹⁰⁷ The negotiation of amendment to a surface lease or order allows a UG surface titleholder or the landholder to serve notice requiring negotiation of an amendment to the rental provisions in the surface lease or order. If either party do not agree to an amendment of the rental provisions in the surface lease or order to which the notice relates within 60 days after receipt of the notice, either party may apply to the board to resolve the disagreement.¹⁰⁸

Finally, all surface leases, the terms of the right of entry and rental provisions must be submitted to the SRB, within 90 days after the date the right holder acquired right of entry, with the following information:

- a) the legal description and size of the land subject to a surface lease
- b) a description of the nature of the interest conferred by a surface lease
- c) the terms and conditions of a surface lease
- d) the date a surface lease is entered into and, if applicable, amended.¹⁰⁹

The SRB may then publish the surface lease on the internet or by other electronic means for review by other landholders and to provide a record of current surface leases.¹¹⁰ The SRB has provided a Surface Lease Database for public access of all surface leases between oil and gas companies and private landholders. The database includes particulars of all surface leases with the parties names removed to ensure anonymity. The database was created to ‘increase transparency and assist landowners in negotiating agreements when oil and gas companies seek access to private land’.¹¹¹

Unlike Queensland’s LAC, which includes both voluntary and mandatory principles, the OGAA¹¹² contains a mandatory Consultation and Notification Regulation created by the OGC applicable to surface leases.¹¹³ The regulation stipulates that a person who intends to carry out

¹⁰⁷ *Petroleum and Natural Gas Act*, RSBC 1996, c 361, s 163.

¹⁰⁸ *Petroleum and Natural Gas Act*, RSBC 1996, c 361, s 166.

¹⁰⁹ Surface Lease Information Regulation, BC Reg 398/2016 s 2.

¹¹⁰ *Petroleum and Natural Gas Act*, RSBC 1996, c 361, s 178(4).

¹¹¹ Surface Rights Board of British Columbia, *Surface Leases* (2017) <<http://www.surfacerightsboard.bc.ca/ResourcesForParties/SurfaceLeases/Search.aspx>>.

¹¹² *Oil and Gas Activities Act*, SBC 2008, c 36.

¹¹³ *Oil and Gas Activities Act*, Consultation and Notification Regulation, BC Reg 279/2010.

and oil and gas activity on a landowner's land must provide to the land owner an invitation to consult on the applicant's proposed activities. Further, a notification must be given with respect to the applicant's proposed activities if an existing building or structure owned by the local authority is within the notification and consultation distance—the petroleum titleholder must provide an invitation to consult to a local authority, the government of Canada or to Aboriginal persons in the applicable circumstances—such as an existing building or structure owned by the local authority being within 3,300 metres for a facility that is a processing plant, pump station or compression station or within 1,500 metres for a well site less than 5 ha or 1,800 metres for a well site 6 ha or more.¹¹⁴

The OGAA Consultation and Notification Regulation ss 11 and 13 require the content of the notice and the content of the invitation to consult to include specific particulars of the proposed activities, how the proposed activities are being carried out, the notification distance and a statement advising that the person may provide written response within 21 days accepting or rejecting the proposed activities with an application to the SRB for review. The invitation to consult must also propose a description of the:

- a) approximate order in which the proposed activities will be carried out and of their approximate timing;
- b) for each phase of the proposed activities, a description of
 - i) the nature and extent of reasonably foreseeable noise, dust and odours that will be caused by the proposed activities,
 - ii) the measures that will be taken to mitigate the negative effects of noise, dust and odours, and
 - iii) the nature and extent of vehicle traffic on oil and gas roads within the consultation distance.¹¹⁵

As explored in Chapter 4, there is a MOU between the OGC, as the Crown Corporation responsible for regulating oil and gas activities in British Columbia, and the ALC. Similarly, the OGC and SRB also have a MOU. The OGC holds broad regulatory responsibilities for oil and gas activities from the exploration and development of UGR subsurface tenure through to facilities operation and decommission (explored in Chapter 4). In comparison, the SRB is an independent quasi-judicial body responsible for granting rights of entry orders, determining

¹¹⁴ *Oil and Gas Activities Act*, Consultation and Notification Regulation, BC Reg 279/2010, s 4.

¹¹⁵ *Oil and Gas Activities Act*, Consultation and Notification Regulation, BC Reg 279/2010, s 13(e)(f).

compensation for surface leases and mediating and resolving disputes concerning compensation for surface access between landowners and resource titleholders, including petroleum, minerals, geothermal and coal mining.

The OGC – SRB MOU seeks to ensure communication, collaboration and coordination between the two bodies with landowners and parties conducting UGR activities,¹¹⁶ including specifically that the SRB will notify the OGC when it receives an application for right of entry or for mediation and arbitration¹¹⁷ and the OGC will notify the SRB when it receives an application requiring private land access on which the applicant indicates surface access issues have not been resolved.¹¹⁸ This provides an integrated process between the departments and there is regular contact and communication underlined in the MOU.

The standard terms and conditions of surface leases are found in the Surface Lease Regulation of the PNGA which requires each surface lease must state as a minimum that a) no surface area covered by the lease shall be used for purposes other than those set out in the lease unless the grantor of the lease consents in writing to such other use; b) no surface area covered by the lease shall be reduced except with the consent in writing of the grantor and grantee; c) if the grantee of the lease fails or neglects to pay rentals or to make payments pursuant to the terms thereof and such default shall continue for a period of 90 days after demand therefor shall have been made, the grantor may terminate the lease; and d) the grantee of the lease may, upon not less than 90 days' notice to the grantor, terminate the lease on or after the expiration of the second year of its term.¹¹⁹

Unlike Queensland, British Columbia does not routinely refer to prescriptive mandatory surface lease terms. Rather, the PNGA outlines minimum requirements, preferring a flexible approach allowing proponents to subjectively negotiate lease terms in individual circumstances, taking into consideration specific and particular landholder requirements. While this may be seen as more of a 'light touch approach' to regulating surface leases, this approach reflects a principles-based approach to regulation, underlining the transparency in providing a Surface Lease Database, collaboration between the SRB and OGC and a streamlined and simple process to encourage landholders and petroleum titleholders to

¹¹⁶ Government of British Columbia, *Memorandum of Understanding Between the Oil and Gas Commission and the Surface Rights Board* (2017).

¹¹⁷ *Petroleum and Natural Gas Act*, RSBC 1996, c 361, pt17 div 5 and s 163.

¹¹⁸ Government of British Columbia, *Memorandum of Understanding Between the Oil and Gas Commission and the Surface Rights Board* (2017) 2.

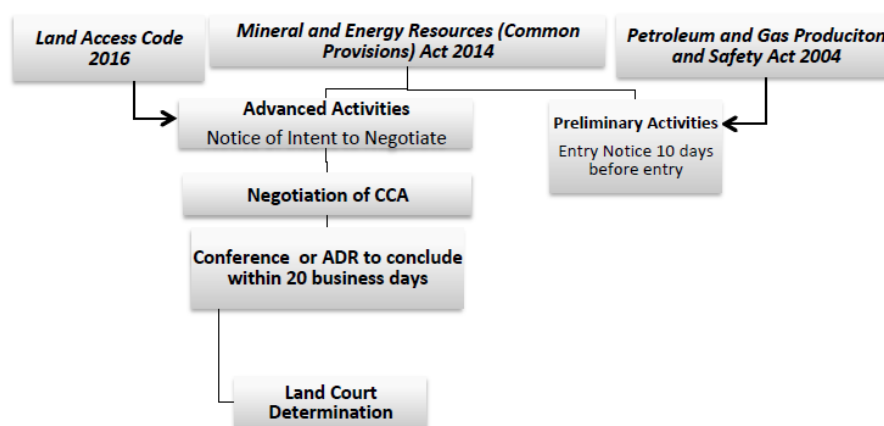
¹¹⁹ *Petroleum and Natural Gas Act*, RSBC 1996, c 361.

collaborate and find common ground. Additionally, the CAPL, a voluntary association of petroleum companies, provides a standard form of petroleum lease which includes a harmonised template and provides guidance for the UG industry nationally.

Figures 5 and 6 summarise and compare the statutory negotiation process for land access agreements in Queensland and British Columbia. Queensland's land access regulatory structure relies upon three primary pieces of legislation or codes—the LAC, MERCPA and PGPSA. Due to the recent merge of parts of the PGPSA into the MERCPA, there remains some duplication and overlap in the regulation of advanced and preliminary activities, as the broad entry requirements are now found in the MERCPA, while the definition and scope of petroleum activities is still found in the PGPSA.¹²⁰ Compensation, agreements and entry requirements differ substantially between preliminary and advanced activities, which may cause confusion and conflict due to the complexity of the differing regulations found in the three regulating Acts.

Conversely, as shown in Figure 6, British Columbia holds a single legislative Act, the PNGA, with a dedicated as a quasi-judicial body to undertake a range of functions to promote simplicity, accessibility and transparency. These functions include appellate review mechanisms of surface right leases, termination of surface rights and damages for loss suffered by landholders.

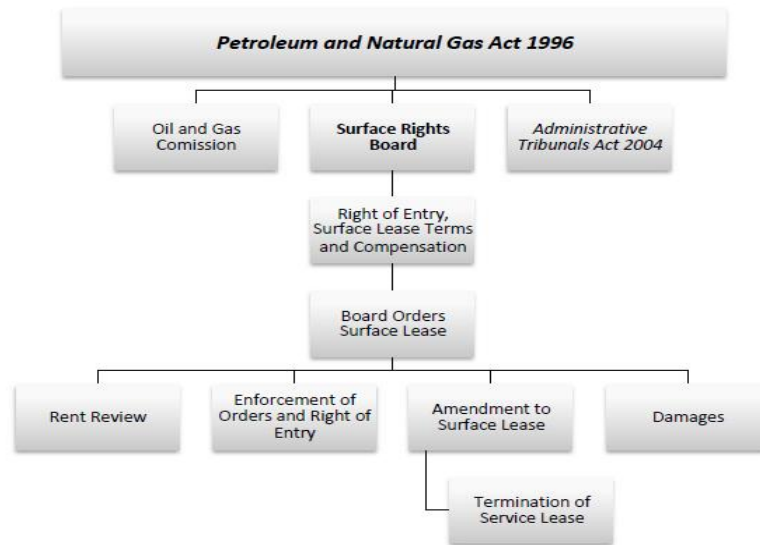
Figure 5: Statutory Negotiation Process in Queensland



Source: Compiled by author.

¹²⁰ *Petroleum and Gas (Production and Safety) Act 2004* (Qld) sch 2.

Figure 6: Statutory Negotiation Process in British Columbia



Source: Compiled by author.

Table 3 provides a functional analysis of the land access regime of Queensland and British Columbia. As shown in the table, there are many similarities, however, the primary difference lies in a single dedicated quasi-judicial body found in British Columbia. This is opposed to Queensland, where the Land Court hears matters regarding land and natural resources broadly ranging from appeals against land valuations to determining compensation for resource activities and land access. Queensland's opt-out agreement, while in preliminary stages of implementation since commencing operation in 2016, ostensibly provides a step towards a more principles-based approach by attempting to 'balance the interests of landholders' providing an alternative arrangement for landholders.¹²¹

¹²¹ Senate Select Committee on Unconventional Gas, Parliament of Australia, *Inquiry into Unconventional Gas Interim Report* (2016) 25.

Table 3: Comparison of Land Access Agreement Functions

Factors	Queensland	British Columbia
Opt-out agreement	✓	✗
Appellate Review Process	✓	✓
Dedicated Quasi- Judicial Body	✗	✓
Broad stakeholder collaboration and consultation regulations	✓	✓

Source: Compiled by author.

While there are similarities between both systems, the complexity and confusion that attends the Queensland regulatory framework appears largely absent in British Columbia. The regulatory framework in place has eventuated from the basic regulatory premise that agricultural land is a valuable sector to the economy in British Columbia and, therefore, requires a system that places its protection and longevity within the remit of a clear and transparent regulatory system.

5.3.4 Right to Veto—A Real Solution?

The MERCPA is intended to improve the Queensland LAF by attempting to amalgamate the five resources Acts applicable to natural resources. It remains to be seen whether these reforms will achieve the intended outcomes and whether regulators demonstrate and appetite to listen to the many criticisms from landholders to improve the viability and transparency of the current system. Currently, the reforms from the Land Access Committee have not been fully implemented or tested and the heads of compensation recommendation has been dismissed. The case law that exists in relation to CCAs has demonstrated a lack of consistency and a low threshold when recommending compensation. Landholders are forced to access judicial avenues to settle grievances, which is both costly and time-consuming, demonstrating a ‘last resort’ approach to managing CCAs.

In comparison, British Columbia has a longer history in managing landholder and land access conflict with natural resources and has developed a highly flexible, transparent and, arguably,

more effective regulatory framework. The surface lease regulatory framework attempts to balance the interests of both parties in reaching a land access and compensation. The SRB, as a quasi-judicial body and through its collaborative MOU with the oversight administrative body the OGC, provides an example of a principles-based regulatory approach.

The current land access laws in Queensland remain rule-based regulatory frameworks broadly emphasising ‘good faith negotiations’ and an appellate process as a last resort to the Land Court. British Columbia may provide an alternative approach in creating a collaborative and transparent quasi-judicial process for determining compensation, the terms of surface leases and terminating land access agreements. Another regulatory option proposed in Queensland to mitigate petroleum titleholder and landholder conflict is a regulatory ‘Right of Veto’, enabling the landholder the right to refuse access and extraction of UGR on private lands. Three recent attempts by former Greens Senator Waters to introduce the legislative right of veto took place in 2011, 2013 and 2015 in the form of the *Landholders’ Right to Refuse (Gas and Coal) Bill* (Cth) (Right to Refuse Bill). The Bill sought to:

Make gas or coal mining activities undertaken by a constitutional corporation without prior written authorisation from landholders unlawful; and ban constitutional corporations from engaging in hydraulic fracturing operations for coal seam gas (CSG), shale gas and tight gas.¹²²

In March 2015, the Senate referred the *Landholders’ Right to Refuse (Gas and Coal) Bill 2015* to an inquiry process. Specifically, in relation to experiences of agricultural landholders and UG activities, the *Inquiry into the Landholders’ Right to Refuse (Gas and Coal Bill)* (Right to Refuse Bill Senate Inquiry) found:

Resource activities on farmland can present challenges for landholders when going about their ordinary business, and the risks or damage to their property that can result. For example, ditches dug for pipe construction can make it difficult for farmers to traverse their property and can lead to livestock injuries. The opening and closing of farm gates is also an issue.¹²³

A number of regulatory issues throughout the Right to Refuse Bill Senate Inquiry were identified by private landholders in relation to the coexistence of CSG activities, including:

¹²² Landholders' Right to Refuse (Gas and Coal) Bill, Explanatory Memorandum (2015), 1.

¹²³ Senate Standing Committee on Environment and Communications, Australian Parliament, *Inquiry into the Landholder’s Right to Refuse (Gas and Coal Bill)* (2015), 1.

- competing water use—the committee received evidence that farmers face restrictions on their water use while petroleum companies enjoy unrestricted access
- air pollution and noise from mining and UG extraction, such as the noise and pollution from the increased number of diesel trucks in the area, and noise from compressor stations and flaring
- concern that contamination near food production areas would prevent farmers from supplying national vendor declarations, which would jeopardise their access to local and export markets
- the inability to manage risk associated with damage caused by contamination related to CSG extraction on neighbouring properties, particularly as insurance companies do not insure against this risk.¹²⁴

The Right to Refuse Bill was rejected on each attempt, most recently by the 2015 Right to Refuse Senate Inquiry.¹²⁵ In its dissenting report, the Senate stated:

The committee considers that this bill is an excessive and unworkable response to concerns that landholders may have about gas and coal activities. The committee also does not consider that it was provided with sufficient credible scientific evidence during the inquiry to justify a ban on hydraulic fracturing.¹²⁶

The Right to Refuse Bill and the Unconventional Gas Senate Inquiry both stressed the delicate balancing act between the political expediency involved in fostering and supporting a strong CSG industry, against the rights and responsibilities of the agricultural sector and private landholder access agreements.

Despite the debate about the nature of landholder property rights causing conflict between agricultural landholders and petroleum titleholders in particular, instilling a right to veto would arguably be fundamentally incompatible with Australia's Torrens title common law legal system. As stated by Gray and Gray:

To claim 'property' in land is to arrogate at least a limited form of sovereignty over the land and to allege that one has some emotion or investment-backed security in it. To have 'property' in land connotes, ultimately, a deeply instinctive self-affirming sense of belonging and control; and it is precisely this sense of possessory control

¹²⁴ Parliament of Australia, *Landholders' Right to Refuse (Gas and Coal) Bill 2015* (2015) 15-16.

¹²⁵ Parliament of Australia, *The Senate, Environment and Communications Legislation Committee, Landholders' Right to Refuse (Gas and Coal) Bill 2015 Final Report* (2015) <https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Gas_and_Coal/~media/Committees/ec_ctte/Gas_and_Coal/report.pdf>.

¹²⁶ Parliament of Australia, *Landholders' Right to Refuse (Gas and Coal) Bill 2015* (2015) 52.

which identifies the two proprietary estates acknowledged today in English law, the fee simple absolute (or freehold estate) and the term of years absolute (or leasehold estate).¹²⁷

The State, as resource owner, has the right and obligation to regulate its petroleum resources for petroleum development. Therefore, the Queensland Government is responsible for the management of access agreements between leases it grants to petroleum landholders, while protecting the rights of fee simple and freehold private landowners in accordance with the national interest.

The allocation of secure title and ensuring the appropriate return to the community for extracting petroleum resources and collecting rent on a taxation system is necessary for the development of State assets.¹²⁸ Arguably, allowing a right of veto for private landholders to refuse petroleum titleholders and, tangentially, the State to access and develop petroleum resources is considered inconsistent under Commonwealth Law and detrimental to the best interests of its citizens.

Ultimately, balancing petroleum titleholder interests, public interests and private landholder rights requires ‘internalised acceptance’ that the right to veto is not a viable regulatory option in the public interest. If landholders are aggrieved and not fairly represented in the current regulatory process and if the right to veto is not in the public interest, what remains? Evidence supports the notion that landholders are currently ‘disenfranchised’ by the current system and the onus is upon the individual single landholder to prove, with limited resources and skills, that resource activities on their lands will negatively impact that land. A potential solution to the imbalance between resource companies and the individual landholder is the concept of collectivisation—grouping common interests together in a regulated coalition to encourage greater representation and visibility of landholder agendas.

5.4 Collective Bargaining as a Regulatory Tool to Manage Conflicting Interests

In terms of statutory land access agreements, negotiation procedures are aimed at producing transparent and effective long-term contracts accommodating the needs of both landholders

¹²⁷ Kevin Gray and Susan Gray, “The Idea of Property in Land” in Susan Bright and John Dewar (eds), *Land Law: Themes and Perspectives* (Oxford University Press, 1998) 15-51, 19.

¹²⁸ Australian Productivity Commission, *Review of Regulatory Burden on the Upstream Petroleum (Oil and Gas) Sector* 2009 < <https://www.pc.gov.au/inquiries/completed/upstream-petroleum/report/upstream-petroleum.pdf> > 81.

and petroleum titleholders. Land access is required for numerous activities over a project's lifecycle, from geological and seismic surveying to drilling, extraction, inspection and processing. From the perspective of agricultural landholders, extended access to land by titleholders can lead to feelings of 'disenfranchisement'¹²⁹ and uncertainties. Concerns from landholders have led to demands for more transparency of land access agreements. This trend is increasingly prevalent in Queensland's UGR regions, as stated by Cheshire et al:

it is particularly profound in mining-intensive regions where the number of actors with a stake in local decisions can be high, but weakly organised, and where mining companies (as powerful corporate actors) are formulating their own sets of rules and expectations about where their own, and others', responsibilities lie. Under such circumstances, the impacts of poor governance have undesirable consequences for the communities concerned.¹³⁰

Given this background, the collective action of farmers to create an affiliation to redress the balance between corporate and community interest may play an important role in delivering public goods, non-commodity outputs and environmental services.¹³¹ Collective action can be classified as action taken by a group to achieve common interests. For the purpose of this chapter, collective action is defined by Marshall and Scott as 'the action taken by a group (either directly or on its behalf through an organization) in pursuit of members' perceived shared interests'.¹³²

As observed by Meinzen-Dick et al, collective action also entails 'the involvement of a group of people, shared interests, common and voluntary actions to pursue those shared interests'.¹³³ Vanni distinguishes two types of collective action, i) cooperation: bottom-up, farmer-to-farmer collective action; and ii) coordination: top-down, agency-led collective action.¹³⁴ Potential collective action through collective bargaining in negotiating CSG CCAs between agricultural land holders and petroleum titleholders is classified as the first type of collective action (i.e., cooperation).

¹²⁹ Lynda Cheshire, Jo-Anne- Everingham and Geoffrey Lawrence, 'Governing the impacts of mining and the impacts of mining governance: Challenges for rural and regional local governments in Australia' (2014) 36 *Journal of Rural Studies* 330.

¹³⁰ Ibid, 337.

¹³¹ Nico Polman, Krijn Poppe, Jan Wilem van der Schans and Jan-Douwe van der Ploeg 'Nested markets with common pool resources in multifunctional agriculture' (2010) LXV(2) *Rivista di Economia Agraria* 295.

¹³² Gordon Marshall and John Scott, *A dictionary of sociology* (Oxford University Press, 2009) 96.

¹³³ Ruth Meinzen-Dick, Monica Di Gregorio and Nancy McCarthy, 'Methods for studying collective action in rural development' (2004) 82(3) *Agricultural Systems* 197, 200.

¹³⁴ Francesco Vanni, *Agriculture and Public Foods: The Role of Collective Action* (Springer, 2014) 22.

Socio-cultural literature recognises that collective negotiation and collaboration requires ‘trust, voice, reciprocity and a disposition to collaborate for mutually beneficial ends’.¹³⁵ The literature also identifies a four-tier criteria framework to assess whether collective action in relation to natural resources will be successful:

- 1) resource system characteristics
- 2) group characteristics
- 3) institutional arrangements
- 4) external environment.¹³⁶

The first requirement necessitates the use of shared information so that parties may access resource system characteristics in a practical and clear manner. Information asymmetry is critical to the implementation of collective action, particularly in the agricultural sector as found by van Caenegem et al.¹³⁷ In the case of land access negotiations, landholders require strong information dissemination to collaborate efficiently and be informed of their negotiating position. One option for the creation and release of these resource systems might be a form of collective landholder coalition, a successful model in the US, explored in Section 5.5.

The concept of complementarity conditions, a branch of social capital theory, illustrates the necessity of collective action in reaching higher levels of economic compensation.¹³⁸ A situation where agricultural landholders are not gaining equitable compensation for the use of their prime agricultural land and loss of productivity during negotiations of CCAs brings about the necessity of a ‘complementarity condition’.¹³⁹ Therefore, when the ‘complementarity condition’ is met, other factors such as collective decision-making and collective information-sharing emerge as important determinants in reaching higher levels of compensation. The success of collective action is also dependent on institutional

¹³⁵ Agbanyim, J Ibeh, *The Five Principles of Collaboration: Applying Trust, Respect, Willingness, Empowerment and Effective Communication to Human Relationships* (iUniverse, 2015).

¹³⁶ Arun Agrawal, ‘Common property institutions and sustainable governance of resources’ (2001) 29(1) *World Development* 1649; Harry Ayer ‘Grass roots collective action: agricultural opportunities’ (1997) 22(1) *Journal of Agricultural Resource Economics* 1.

¹³⁷ William van Caenegem, Madeline Taylor, Jen Cleary and Brenda Marshall, *Collective Bargaining in the Agricultural Sector* (2015) <<https://rirdc.infoservices.com.au/downloads/15-055>>.

¹³⁸ James Coleman, *Foundations of Social Theory* (Harvard University Press, 1990) 93.

¹³⁹ Van Caenegem, et. al., above n 137, 17.

arrangements, which must have locally devised and simple rules for the collective group generating public objectives.¹⁴⁰

Uetake presents a case study analysis of farmer collective action bodies in New Zealand in three case studies, the Sustainable Farming Fund, East Coast Forestry Project and North Otago Irrigation Company.¹⁴¹ The Sustainable Farming Fund consisted of 33 dairy farmers who launched the fund in 2000 to fund grass-root activities to address sustainable water management. The case study illustrates that collective action can produce larger benefits including scale merits, sharing knowledge and increasing capacity and tackling local issues. Additionally, collective action may reduce the costs of public goods provision (economy of scale) and may improve the coordination mechanisms for the joint provision of several public goods (economy of scope).¹⁴²

In many cases, a cooperative approach relies heavily on the local knowledge of stakeholders and on the possibilities to integrate this knowledge into the decision-making process.¹⁴³ Thus, collective action increases the credibility and legitimacy of decision-making, but also allows the collecting and sharing of information at lower costs compared to the individual approaches. Although one of the barriers to collective bargaining is of ‘free riding’ members who do not contribute to the group activities and benefit from active member’s activities, this can usually be displaced by incentive mechanisms in collective bargaining groups including trust, solidarity reciprocity and reputation.¹⁴⁴

Porter defines industry clustering as ‘a geographically proximate group of interconnected companies and institutions in a particular field, linked by commonalities and complementarities’.¹⁴⁵ Active clustering is defined by interaction and functional relationships, knowledge sharing, and collaborative and competitive forces that drive innovation. Nauwelers and Reid describe regional innovation as ‘the set of economic, political, and institutional relationships occurring in a given geographical area that generates a collective learning

¹⁴⁰ Elinor Ostrom, *Governing the Commons* (Cambridge University Press, 2015).

¹⁴¹ Tetsuya Uetake, ‘Providing agri-environmental public goods through collective action: lessons from New Zealand case studies’ (Paper presented at the 2012 NZARES Conference, Tahuna Conference Centre—Nelson, New Zealand, August 30–31 2012).

¹⁴² Van Caenegem, et. al., above n 137.

¹⁴³ Ibid.

¹⁴⁴ Francesco Mantino, ‘Understanding delivery mechanisms in EU rural development policies: an institutional Approach’ (Paper presented at the 118th Seminar of the EAAE Rural Development: governance, policy design and delivery, Ljubljana, Slovenia, August 25-27, 2010) 25.

¹⁴⁵ Michael Porter, *Competitive Advantage, Creating and Sustaining Superior Performance* (Free Press, 1985) 199.

process leading to the rapid diffusion of knowledge and best practice'.¹⁴⁶ The nature of clustering, as outlined by Davies et al, is defined as 'organizations [that] are both in competition and cooperating with one another simultaneously in different areas of their activities, but overall continuing to develop and reinforce the benefits of coexistence'.¹⁴⁷ Participation in clusters offers competitive advantages due to their flexibility, sharing of information and resources, and links to other networks and opportunities.

When negotiating CCAs, many landholders may have limited access to legal information and oil and gas governance materials. Consequently, forming a cluster is one way to ensure an equitable result for all farmers in a certain geographic area located within oil and gas extraction activities. Therefore, horizontal collaborations can take place among landowners, possibly initially within a local food supply chain and governed by the CCA, using a collective bargaining law framework. In conjunction, vertical relationships for private and public oil and gas actors can develop and reinforce the benefits of coexistence.

5.4.1 Competition Law

Collective bargaining can be classified as a transactional regulatory for the negotiation of contracts by a collective group as agreements based on negotiation creating an enforceable undertaking.¹⁴⁸ This is in contrast to a pure authorisation regulatory tool such as a CCA land access agreement. Collective bargaining is used in multiple sectors to reduce information asymmetry and promotion of effective contractual outcomes for multiple parties originally used by workplace unions in Australia.¹⁴⁹ Further, collective bargaining often employs objective conduct standards for negotiation to guide parties or to require them to adhere to behaviours and procedures that are conducive to transparent and effective negotiation procedures.

The *Competition and Consumer Act 2010* (Cth) permits small businesses to seek a form of validation, through either the ACCC notification or authorisation regime, to create a collective

¹⁴⁶ Claire Nauwelaers and Alasdair Reid, *Innovative Regions? A Comparative Review of Methods of Evaluating Regional innovation Potential* (RIDER, 1995), 95.

¹⁴⁷ D. Davies, K. Larkin, and B. Wilson, *Cluster development: From theory to practice—Implications for the food industry* (Paper presented at The Agricultural Economics Society, University of Wales, Aberystwyth, 10 April, 2002) 23.

¹⁴⁸ Collective bargaining is within the transactional categorisation of regulatory tools. Transactional tools include contracts, grants, legislative agreements, agreements and accords, covenants, compliance agreements, negotiation/ arbitration and enforcement undertakings. Arie Freiberg, *Regulation in Australia* (2017, The Federation Press) 201.

¹⁴⁹ Shae McCrystal, 'Collective Bargaining Beyond the Boundaries of Employment: A Comparative Analysis' (2014) *Melbourne University Law Review* 662.

bargaining arrangement.¹⁵⁰ Collective bargaining ‘grants protection from liability concerning anti-competitive behaviour to any number of businesses including farms that seek to negotiate agreements as a group’.¹⁵¹ A small business is permitted to lodge a collective bargaining notice with the ACCC if the small business has made or proposes to give effect to a contract that contains a cartel provision, exclusionary provision or a price-fixing provision and the expected value of the contracts between the parties does not exceed the limit of A\$3 million in any 12 month period or A\$5 million for primary production contracts.¹⁵²

The introduction of the ACCC notification system was intended to be a ‘cheap, simple and speedy mechanism to allow collective contractual negotiations to take place’.¹⁵³ However, the number of collective bargaining authorisation applications far exceeds that of collective bargaining notifications in the agricultural sector. The lack of uptake of the notification avenue may be due to the inflexibilities associated with identifying individuals, targets and low transaction thresholds between A\$3–5 million. In comparison, collective bargaining authorisations are applicable to both current and future members of a group, with conditions permitted by the ACCC.

The ‘public benefits’ test requirements must be met by the ACCC’s evaluation of the potential collective bargaining arrangement for either an authorisation or notification must be in adherence with the tests found in ss 90(5A) and 90(5B) of the *Competition and Consumer Act 2010* (Cth), which state that the ACCC shall not authorise a provision of a proposed contract, arrangement or understanding that is or may be a cartel provision, unless it is satisfied in all the circumstances that:

- the provision, in the case of s 90(5A), would result or be likely to result or, in the case of s 90(5B), has resulted or is likely to result, in a benefit to the public
- that benefit, in the case of s 90(5A), would outweigh the detriment to the public constituted by any lessening of competition that would result or be likely to result if the proposed contract or arrangement were made or given effect to, or in the case of s 90(5B),

¹⁵⁰ Dan Svantesson, *Svantesson on the Law of Obligations* (Centre for Commercial Law, 3rd ed, 2012).

¹⁵¹ Van Caenegem, et. al., above n 137, xii.

¹⁵² *Competition and Consumer Act 2010* (Cth) s 93AB(1A); *Competition and Consumer Regulations 2010* (Cth) s 71D.

¹⁵³ Lisa Emanuel, ‘Australia: Competition Small Business And Collective Bargaining - Will The New Laws Strike The Right Balance?’ *Mondaq* (online) 19 July 2004
<<http://www.mondaq.com/australia/x/27357/Corporate+Commercial+Law/Competition+Small+Business+And+Collective+Bargaining+Will+The+New+Laws+Strike+The+Right+Balance>>.

outweighs or would outweigh the detriment to the public constituted by any lessening of competition that has resulted or is likely to result from giving effect to the provision.¹⁵⁴

To satisfy the above collective bargaining tests the ACCC will analyse:

The relevant market affected by the potential collective bargaining conduct; the counterfactual; application of the 'future with-and-without test' whereby the ACCC compares the public benefit and anti-competitive detriment generated by the conduct in the future if the authorisation is granted with those generated if the authorisation is not granted; and finally whether there is a public benefit in granting the collective bargaining arrangement.¹⁵⁵

If the ACCC is satisfied that any public benefit resulting from the cartel provision, exclusionary provision or price-fixing provision does not or would not outweigh the public detriment resulting from the provision, the Commission may issue an objection notice.¹⁵⁶

The ACCC is also given the power, on the grounds of public benefit, to authorise collective bargaining conduct or other conduct constituting cartel conduct or a misuse of market power under the *Competition and Consumer Act 2010* (Cth). The ACCC must make a determination within the relevant period of six months, beginning on the date on which the application was received by it.¹⁵⁷ If the Commission has not determined the application within that time, the authorisation is deemed to have been granted. If the Commission prepares a draft determination within the six months and determines an extension of not more than six months with the agreement of the applicant, then the period is extended by the agreed period of time. The period may also be extended by the holding of a conference.¹⁵⁸

The principles guiding the application of authorisation which must be satisfied to grant a collective bargaining arrangement are:

- 1) it is for the parties seeking authorisation to satisfy the Australian Competition Tribunal that benefit to the public is likely and that there will be sufficient public benefit to outweigh any likely anti-competitive detriment

¹⁵⁴ ACCC, *Chevron Australia Pty Ltd & Ors A91139 & A91140 & A91160 & A91161*, Draft Determination, 27.

¹⁵⁵ Allen Consulting Group, *Report to the ACCC: Gorgon Gas Project Joint Venture Application for Authorisation of Joint Marketing* (24 July 2009).

<http://www.domgas.com.au/pdf/Subs_pres/Allens%20Consulting%20Group%20report.pdf> 29.

¹⁵⁶ *Competition and Consumer Act 2010* (Cth) s 93AC(1).

¹⁵⁷ *Competition and Consumer Act 2010* (Cth) ss 90(10), 90(10A).

¹⁵⁸ *Competition and Consumer Act 2010* (Cth) s 90A.

- 2) the Australian Competition Tribunal is required to consider the likely shape of the future both with and without the conduct in question (this is known as the ‘future with and without’ test)¹⁵⁹
- 3) the task referred to in list item (2) above will generally entitle an understanding of the functioning of relevant markets with and without the conduct for which authorisation is sought¹⁶⁰
- 4) it is not appropriate to consider the present state of the market and compare it with the likely future state of the market if the conduct were to be authorised, instead the comparison is to involve considering the future state of the market with and without the conduct in question
- 5) it is doubtful that past benefits may be relied on in support of an application for authorisation¹⁶¹ except to the extent that the past may be indicative of the future.

Although the CCA does not provide a legislative definition of what constitutes the satisfaction of the ‘public benefits test’, the common law sheds light on the interpretation of the test. Authorisations and notification proceedings to date have given rise to the confirmation of the following elements:

- 1) a broad view must be taken of what constitutes a benefit for the public¹⁶²
- 2) the term ‘the public’ refers to the Australian public¹⁶³
- 3) the benefit must be something of value to the community generally¹⁶⁴
- 4) a benefit to a narrower segment of the community will only constitute a public benefit if it can be demonstrated to serve an acknowledged end of public policy or be otherwise beneficial to the community generally¹⁶⁵
- 5) efficiency is a major consideration (including allocative, productive and dynamic efficiency) but it is not an exclusive one, and should be assessed in regard to the welfare impacts of those efficiencies¹⁶⁶
- 6) a benefit to a narrower segment of the community will generally be given less weight than a benefit to the community generally¹⁶⁷

¹⁵⁹ *Re VFF Chicken Meat Growers’ Boycott Authorisation* [2006] ACompT 2.

¹⁶⁰ *Queensland Co-op Milling Assn Ltd — Proposed Merger* (1976) 8 ALR 481.

¹⁶¹ *Re Media Council of Australia (No 2)* (1987) 82 ALR 115.

¹⁶² *Re Queensland Co-op Milling Assn Ltd — Proposed Merger* (1976) 8 ALR 481, 510-11.

¹⁶³ *Re Howard Smith Industries Pty Ltd and Adelaide Steamship Industries Pty Ltd* (1977) 15 ALR 645, 660.

¹⁶⁴ *Re Application by Medicines Australia Inc* [2007] ACompT 4, 107.

¹⁶⁵ *Re Howard Smith Industries Pty Ltd and Adelaide Steamship Industries Pty Ltd* (1977) 15 ALR 645, 660.

¹⁶⁶ *Qantas Airways Ltd* [2004] ACompT 9, 166.

¹⁶⁷ *Re Howard Smith Industries Pty Ltd and Adelaide Steamship Industries Pty Ltd* (1977) 15 ALR 645, 660.

7) the claimed benefit must be attributable to the conduct which is sought to be authorised¹⁶⁸

8) where there is a material change in circumstances surrounding a previously authorised agreement, its continuation may no longer be of benefit to the public.¹⁶⁹

Although collective bargaining in Australian competition law has historically been utilised by commercial businesses in competition with another to form a vehicle to equalise bargaining positions, there has been a rise in agricultural groups collectively bargaining to create a level playing field between producers, processors and retailers.

5.4.2 Collective Bargaining in Agriculture

In response to concerns of the agricultural industry to access collective bargaining arrangements¹⁷⁰ a dedicated agricultural unit, the CCA, was enacted in 2015 led by the first agricultural commissioner, Mick Keogh:

The Agriculture Consultative Committee ('ACC') was established by the ACCC to provide advice and information on issues affecting the agriculture sector that fall within the scope of the *Competition and Consumer Act 2010* (the Act), and to provide a forum where competition and consumer law concerns related to the agriculture sector can be considered and addressed collaboratively.¹⁷¹

The CCA aims to realign the balance of bargaining power of farmers with processors and major retailers. This continual imbalance has been investigated in a number of inquiries including a Senate investigation in 2011.¹⁷²

The ACCC analysis of collective bargaining applications rests on the extent of cost sharing and, consequently, overall cost reduction between bargaining participants which will give rise to a public benefit. For example, in the *Queensland Chicken Growers Association Incorporated Authorisation*,¹⁷³ the ACCC identified cost savings as including 'a reduction in

¹⁶⁸ *Application of Shell Co (Aust) and Neptune Oil Co Pty Ltd* (1975) 3 TPR 15 where the Commission refused to grant authorisation for exclusive dealing arrangements between Shell and service stations because the claimed benefits of solo trading derive from the nature of solo trading itself and not from the exclusive dealing arrangements.

¹⁶⁹ *Re Alliance Petroleum Australia Ltd* (unreported, Australian Competition Tribunal, Lockhart J, Brunt and Aldrich M, AC 02/97, 14 October 1997).

¹⁷⁰ Van Caenegem, et. al., above n 137.

¹⁷¹ ACCC, *Agriculture Consultative Committee* (2016) <<https://www.accc.gov.au/about-us/consultative-committees/agriculture-consultative-committee>>.

¹⁷² Senate Standing Committees on Economics, Commonwealth Government *Inquiry into the impacts of supermarket price decisions on the Dairy Industry* (3 November 2011).

¹⁷³ ACCC, *Queensland Chicken Growers Association Incorporated Authorisation*, A91347.

the number of hours spent negotiating; a decrease in legal and expert advisory costs; and efficiencies in pooling limited resources of smaller applicants'.¹⁷⁴ The significance of transaction cost savings during negotiation, access to expert and legal advice and the pooling of resources will arguably create a strong public benefit of the collective bargaining of agricultural landholders.

The ACCC's analysis is based on a three-tiered framework which must be satisfied for collective bargaining applications to be successfully approved:

- 1) participation in the bargaining group should be voluntary
- 2) limiting the number of participating businesses so that the bargaining group only covers a relatively modest market share
- 3) limiting collective boycotts.¹⁷⁵

The ACCC collective bargaining criteria has saliency when applied to landholders in negotiating CCAs, namely, forming a voluntary collective bargaining group with limited membership numbers in a region, covering a modest market share of agricultural businesses, and the absence of a collective boycott against UG targets.

There is evidence to suggest that the ACC could be expanded to encompass competition and redress the power of agricultural landholders to create oversight of CCAs and, ultimately, a more balanced relationship between parties, which bears similarities in the relationship between growers and major retailers. There are obvious similarities to landholder negotiations with resources companies. As stated by Paragreen et al, 'due to the importance of the industry's macroeconomic contribution to the state and its rapid growth, landholders retain few rights to fully reject CSG exploration or extraction, indicating a lack of procedural justice'.¹⁷⁶

5.4.3 Collective Bargaining in the Unconventional Gas Sector

ACCC authorisations have recently been relied upon by the UG industry. This indicates a precedent of willingness to enter into collective arrangements with other parties by the CSG sector in Queensland. A number of general authorisations to a variety of prima facie anti-

¹⁷⁴ ACCC, *Queensland Chicken Growers Association Incorporated Authorisation*, A91347, 12.

¹⁷⁵ Van Caenegem, et. al., above n 137, 30.

¹⁷⁶ Nigel Paragreen and Alan Woodley, 'Social Licence to Operate and the Coal Seam Gas Industry: Lessons from Social Issues in Established Mining Operations?' (2013) 23(1) *Rural Society* 46, 49.

competitive arrangements have been granted to UG companies and LNG facilities by the ACCC in the following cases:

- 1) conditional authorisation to Chevron Australia Pty Ltd, Chevron (TAPL) Pty Ltd, Mobil Australia Resources Company Pty Ltd and Shell Development (Australia) Pty Ltd to jointly sell and market their natural gas entitlements from the Gorgon project for supply in Western Australia¹⁷⁷
- 2) authorisation to the North West Shelf joint venture participants with entitlements to produce domestic gas (domgas) to engage in joint marketing of domestic gas produced from the North West Shelf Project, and for the administration of ongoing gas supply contracts¹⁷⁸
- 3) authorisation to joint venture participants in a proposed PNG Gas Project for the joint marketing of gas produced by the Project¹⁷⁹
- 4) Woodside Energy Ltd and Benaris International Pty Ltd and jointly market and sell their shares of the Otway Gas Project joint venture's liquefied petroleum gas to a common customer or common customers¹⁸⁰
- 5) APLNG conditional authorisation to discuss, make and give effect to arrangements regarding the sequencing and timing of scheduled maintenance works, and associated shutdowns and outages, at LNG facilities in Curtis Island in the Port of Gladstone (LNG Facilities).¹⁸¹

The Australian Pacific LNG Pty Ltd authorisation sought an arrangement to discuss, make and give effect to arrangements regarding the sequencing and timing of scheduled maintenance works, and associated shutdowns and outages, in LNG facilities in Curtis Island in the Port of Gladstone (LNG Facilities).¹⁸² The ACCC granted the authorisation based on the satisfaction of the public benefits test as the authorisation would potentially result in 'increasing the efficiency of undertaking LNG maintenance and reducing the likelihood of major disruptions to domestic gas markets, which could occur if multiple maintenance events at the Applicants' facilities overlap'.¹⁸³

¹⁷⁷ ACCC, Chevron Australia Pty Ltd & Ors - Authorisations - A91139 & A91140 & A91160 & A91161.

¹⁷⁸ ACCC, The North West Shelf Project - Authorisations - A91220 - A91223.

¹⁷⁹ ACCC, PNG Gas Joint Venture Project - Authorisation A40081.

¹⁸⁰ ACCC, Woodside Energy Ltd & Benaris International Pty Ltd - Authorisations - A91135 & A91157.

¹⁸¹ ACCC, Australia Pacific LNG Pty Ltd & Ors - Authorisations - A91516 & A91517.

¹⁸² ACCC, Australia Pacific LNG Pty Ltd & Ors - Authorisations - A91516 & A91517.

¹⁸³ ACCC, Australia Pacific LNG Pty Ltd & Ors - Authorisations - A91516 & A91517, 2.

However, a conditional authorisation was granted due to the potential of information asymmetry in domestic gas markets documenting when facilities are offline for maintenance. Consequently, the collective bargaining authorisation allows the applicants to sell excess gas in large quantities or purchase gas from domestic markets when increasing LNG production. Therefore, the ACCC granted the collective bargaining notification with the condition that the applicants must:

Publicly disclose maintenance schedule information that they have shared with one another, and to ensure that information remains accurate. This is intended to give all market participants access to information regarding the maintenance scheduled at the Applicants' facilities and therefore address the competitive detriment arising from the conduct.¹⁸⁴

Evidently, in the situation where stakeholders have expressed concern regarding information asymmetries or other potential anti-competitive effects, the ACCC will grant a conditional authorisation based on public disclosure. In the case of potential collective bargaining arrangements with agricultural landholder applicants and UG targets, any concerns raised about information asymmetries or impact on the competitiveness of CCAs could be negated by the granting of a conditional collective bargaining determination to disclose collective bargaining arrangements.

The ACCC considers transaction and time costs associated with contracting a significant element of public benefits to be harnessed by a collective bargaining arrangement:

These transaction costs can be lower where a single negotiating process is employed, such as in collective bargaining arrangements, relative to a situation where a series of individual negotiation processes are necessary. The ACCC considers that to the extent these transaction cost savings do arise they are likely to constitute a public benefit.¹⁸⁵

The central public benefit of authorising a collective bargaining group to collectively negotiate of lowering transaction costs by sharing negotiation costs provides a platform for the utilisation of collective bargaining provisions by agricultural landholders. Numerous authorisations and notifications for farmers have involved the recognition that farmers and agriculturalists are naturally disadvantaged when bargaining and the enhancement of their

¹⁸⁴ ACCC, Australia Pacific LNG Pty Ltd & Ors - Authorisations - A91516 & A91517, 3.

¹⁸⁵ Stephen King, 'Collective Bargaining in Business: Economic and Legal Implications' (2013) 5 *UNSW Law Journal* 107, 110. The relevant cost savings identified by the applicants included a decrease in the number of hours spent negotiating; a decrease in the cost of legal and expert advisors; and efficiencies in the pooling of the limited resources of the smaller applicants.

ability to have greater input into contractual arrangements is not classified as anti-competitive:

In many cases, the ACCC has identified that individually, businesses have a limited degree of input into their contracts being offered ‘take it or leave it’ terms and conditions. These circumstances do not always lead to the most efficient contract. The ACCC has often accepted that collective bargaining arrangements can provide participants with an opportunity for greater input into contracts and accordingly deliver the opportunity for more efficient contracts.¹⁸⁶

5.5 New York Joint Landholders Coalition

The comparative case study of US shale gas landowner coalitions provides a potentially instructive illustrative example of the success of collective action and empowering landholder groups facing mining activities in their community. Comparative to Australian UGR operations, shale gas extraction and exploration in the US is longstanding and has been in operation since 1825 in New York. Thus, legislative and policy issues in the US as a ‘mature State’ for shale gas are much more developed in some aspects than in Australia.

As the US is common law legal system, with some aspects of civil law codification, rather than the strictly common law legal system of Australia, landowners own the minerals, oil and gas beneath their land and negotiate compensation with a corresponding extraction lease with an exploring company, thus transferring their mineral rights to an oil and gas company to develop the shale gas.¹⁸⁷ In 1953, Texan courts declared that landowners may reserve mineral rights and the oil and gas contained in the case *Benge v Scharbauer*,¹⁸⁸ thereby enabling the mineral estate to be severed from the surface estate.¹⁸⁹

In the event of severance, the mineral estate dominates in terms of exploration and extraction and the mineral lessee assumes the same rights owed to the mineral estate owner since the leasing document is perceived as a temporary transference of ownership. According to Timmens, ‘the owner of the mineral estate may lease the minerals to third parties for

¹⁸⁶ Ibid, 112.

¹⁸⁷ John C. Dernbach and James R. May and James R. May, *Shale Gas and the Future of Energy: Law and Policy for Sustainability* (Edward Elgar, 2016).

¹⁸⁸ 259 SW 2d 166 (Tex 1953).

¹⁸⁹ *Acker v Guinn*, 464 SW 2d 348, 352 (Tex, 1971).

exploration, but law only requires that the lessee (i) notify surface owners of the intent to explore and drill'; (ii) have access to as much land as is necessary to explore and drill'.¹⁹⁰

There are further differences between US and Australian petroleum exploration and extraction regulation, providing evidence that Australian regulation is indeed more stringent than the US regulatory system. For example, the owners of the mineral estate are only required to inform the surface estate when drilling is imminent on their property due to the *Texas Natural Resource Code of 2007*.¹⁹¹ Additionally, the mineral estate may use as much surface water from the leased land as is reasonably necessary to carry out operations, given that the use is not wasteful, and it may inject wastewater into subsurface formations.¹⁹² Moreover, the mineral estate does not accept responsibility for the full restoration of the property nor is it required to pay surface damages as long as the damage is not unreasonable.¹⁹³ However, in some US states, landowner coalitions have formed and successfully negotiated favourable contracts protecting their agricultural lands. US state governments and some private entities have exercised the power of eminent domain to take land for public use.¹⁹⁴ What constitutes public use has long been the subject of debate among legal practitioners and academics to ascertain an equitable standard for land acquisitions in the US.¹⁹⁵

Despite regulatory differences of petroleum ownership and extraction, the US example of rural landowners' collaboration and collective action is a case on point illustrating the potential of the use of collective bargaining for Queensland's agricultural landowners. In the Marcellus Shale Gas Basin lies the Southern Tier Region in New York State, where from 2011 rural landowners have formed grassroots organisations aimed at collectively bargaining with natural gas companies over the terms of development leases in their region.¹⁹⁶ These collectives are identified as 'landowner coalitions' in the Southern Tier Region of New York, consisting of 35 groups representing 800,000 ac of rural landscape owned by more than 20,000 landowner members representative of 20% of the land in this region.¹⁹⁷ As such, these

¹⁹⁰ Christopher Timmens and Ashley Vissing, *Shale Gas Leases: Is Bargaining Efficient and what are the Implications for Homeowners if it is not?* (2015) <http://public.econ.duke.edu/~timmins/Timmins_Vissing_11_15.pdf> 15.

¹⁹¹ *Texas Natural Resource Code of 2007*, 91, NAT RES § 91-504.

¹⁹² *Warren Petroleum Corp v Martin*, 271 SW 2d, 410 (Tex, 1954).

¹⁹³ *Warren Petroleum Corp v Monzingo*, 304 SW 2d, 362 (Tex, 1957).

¹⁹⁴ Dwight H. Merriam and Mary Massaron Ross, *Eminent Domain Use and Abuse: Kelo in Context* (American Bar Association, 2006).

¹⁹⁵ *Calder v Bull*, 3 US 386, 388 (1798).

¹⁹⁶ Jeffrey Jacquet and Richard C. Stedman, 'Natural Gas Landholder Coalitions in New York State: Emerging benefits of collective natural resource management' (2011) 26(1) *Journal of Rural Social Sciences*, 62.

¹⁹⁷ Joint Landowners Coalition of New York (JLCNY), *Homepage* (2016) <<http://www.jlcny.org/site/>>.

coalitions exert considerable influence over a substantial portion of the terrain considered attractive to gas drilling.

The initial impetus for forming a landowner coalition between members was to secure greater compensation for rural landowners when negotiating oil and gas leases. However, the scope of the landowner coalition has now grown, according to Jacquet and Stedman:

Become the de facto managers of natural resource development across vast and largely contiguous landscape scales. Besides setting rates of compensation, the leases these groups negotiate with energy companies serve as legally-binding operating agreements that can influence environmental and community outcomes.¹⁹⁸

A study by Jacquet and Stedman in 2011 performed semi-structured interviews focusing on the timelines, motivations, outcomes and organisational structures of the landholder coalitions and their members with 16 principle leaders of each of the 12 land owner coalitions in the Southern Tier Region of New York State.¹⁹⁹ The two largest landholder coalitions are informal and volunteer-led organisations found in Steuben and Tioga Counties, claiming approximately 162,000 ac with 5,000 owners and 113,000 ac with 1,700 owners, respectively.²⁰⁰

Both groups have a leader or spokesperson and a central committee of volunteers that coordinates membership and activities. Comparatively, other coalitions are formed by a handful of neighbouring property owners or a leasing consultant who is typically paid a per-acre fee upon successful negotiation. The first more structured coalition model is arguably suited to the Queensland context, as agricultural landholders forming a collective bargaining group would require an audit of membership, central committee and a structured approach to negotiations while reporting to the ACCC. However, unlike collective bargaining groups, coalitions do require a small per-acre fee to offset legal costs upon negotiating a leasehold agreement.

Emerging from Jacquet and Stedman's 2011 study was the finding that the financial compensation incentive for members represented the primary motivation among both members and organisers. Some interviewees also indicated that members expanded their motivations for collective action to include the protection of private property and

¹⁹⁸ Jacquet and Stedman, above n 196, 63.

¹⁹⁹ Ibid, 62.

²⁰⁰ Steuben County Landowners Coalition (SCLC), *Homepage* (2010) <<http://mysite.verizon.net/reszcmsk/>>; Tioga County Landowners Group (TCLG), *Homepage* (2016) <<http://www.tiogagaslease.org/>>.

environmental protection. An interviewee in the study stated, ‘you can almost put money as number two, now. The biggest thing is the protection of private assets and private property, and just the knowledge. Not being taken advantage of and protecting yourself’.²⁰¹

Consequently, it appears landholder coalition negotiations have the potential to influence natural resource management across a large area of the New York State. For example, some coalitions require environmental protections above those required by the New York State Department of Environmental Conservation regulations such as additional water testing.²⁰²

A state wide peak body, the Joint Landowners Coalition of New York (JLCNY) comprises of the leaders in individual coalitions and actively produce information dissemination, negotiation strategies, lobbying and advocacy at the state and federal government levels. The JLCNY’s mission statement is ‘To foster, promote, advance and protect the common interest of the people as it pertains to natural gas development through education and best environmental practices’.²⁰³ The JLCNY is a registered organisation founded in 2010 and consisting of 77,000 landholders in control of one million acres across 14 counties.

The JLCNY filed a lawsuit in 2014, objecting to a lack of political objectiveness during a hydraulic fracturing study being conducted by the New York Department of Conservation and Department of Health to allow hydraulic fracturing to begin in the Marcellus Shale region.²⁰⁴ The court dismissed the lawsuit on 14 July 2014, based on the arguments that the group lacked standing to sue the state and that the review process had no legally mandated timeline.²⁰⁵

JLCNY appealed the ruling on 24 July 2014,²⁰⁶ Governor Cuomo ultimately banned hydraulic fracturing across New York in December 2014 and the final review of the environmental impact study was issued in June 2015. Although the JLCNY does not collectively sign leases on behalf of the 35 coalitions in New York, it provides legal advice, social capital resources and lobbying outreach activities. Landowner coalitions distribute information to their

²⁰¹ Jacquet and Stedman, above n 196, 77.

²⁰² Department of Environmental Conservation, *Regulations and Enforcement* (2016) <<http://www.dec.ny.gov/65.html>>.

²⁰³ *Internal Review Code of 1986*, 26 USC § 501(c)(6).

²⁰⁴ Christopher Weible and Tanya Heikkila, ‘Fracking resolution in New York - escalation of fracking politics across the nation’, *The Conversation* (online), 22 December 2014, <<http://theconversation.com/fracking-resolution-in-new-york-escalation-of-fracking-politics-across-the-nation-35655>>.

²⁰⁵ Tom Wilber, *Under the Surface: Fracking, Fortunes, and the Fate of the Marcellus Shale, Updated Edition* (Cornell University Press, 2015).

²⁰⁶ Ballotpedia, *Joint Landholders Coalition of New York* (2015) <https://ballotpedia.org/Joint_Landowners_Coalition_of_New_York>.

members on common leasing violations to watch for, catalogued reported violations and legal advice on how to best respond to the violations.²⁰⁷

Comparatively, benefits from collective bargaining are similar to US landholder coalitions as collective bargaining offers lowered transaction costs for UG targets through negotiating multiple standardised leases. However, it is noted the US civil law system arguably favours the inclusion of landholders as they are direct resource rights holders and financial beneficiaries to oil and gas leases.

For example, the concept of ‘good faith’ bargaining is found in the *US Capper-Volstead Act of 1922*,²⁰⁸ which provides basic protection for agricultural growers to collectively negotiate on product price.²⁰⁹ A number of US states have adopted legislation requiring ‘good faith’ bargaining, meaning that intermediaries must negotiate with an agricultural association.²¹⁰ Defining and legislating for ‘good faith’ negotiations with a collective body of agricultural landholders to create a land access agreement may arguably provide a number of advantages including equitability in parties bargaining position, improving information distribution to landholders, and, arguably, facilitating an effective LAF.

5.6 Challenges and Opportunities

Collective bargaining is traditionally founded on competition law exemption to create an arrangement where two or more competitors come together to negotiate with a supplier or a customer over terms, conditions and prices.²¹¹ A CCA represents a commercial venture whereby homogenous small businesses, being agricultural landholders, will collectivise to negotiate terms of compensation and land access.

²⁰⁷ Alex Prud'homme, *Hydrofracking: What Everyone Needs to Know* (OUP USA, 2014).

²⁰⁸ *Capper-Volstead Act of 1922*, 67, PL 67-146.

²⁰⁹ Donald A Frederick, *Antitrust Status of Farmer Cooperatives: The Story of the Capper-Volstead Act* (2002) *Cooperative Information Report* 59 <<http://www.uwcc.wisc.edu/pdf/CIR59.pdf>>.

²¹⁰ Donald A. Frederick, ‘Legal rights of producers to collectively negotiate’ (1993) 19(2) *William Mitchell Law Review* 433.

²¹¹ William Breen Creighton and Anthony Forsyth, *Rediscovering Collective Bargaining: Australia's Fair Work Act in International Perspective* (Routledge, 2012).

The *Agricultural Competitiveness Green Paper*²¹² recognises the issue of farmers being unable to negotiate a fair return of compensation for the use of their agricultural land by mining activities and to limit the effects of mining to their land:

Stakeholders expressed a concern that the quality of their agricultural land and their life on the farm were being affected by mining activities adjacent to or on their land. Some stakeholders suggested that farmers get a return from mining activities on their land, through a share of royalties.²¹³

Contractual agreements are normally reached between farmers and oil and gas companies pertaining to the conditions of access (with a view to minimising disruption and loss of amenity) and the compensation payable to the land holder.

According to the PC's *Inquiry into Mineral and Energy Resource Exploration*,²¹⁴ 'In sparsely stocked grazing areas, land holder concerns about exploration activity on their land are not as great as in areas where land is intensively cropped and irrigated'.²¹⁵ For example, from 2011–2014, 4,500 land access agreements were negotiated between land holders and CSG companies across the Surat and Bowen basins in Queensland.²¹⁶ The potential for conflict between exploration and agricultural activities tends to rise with the intensity of land use and the magnitude of the potential impact. According to the Association of Mining and Exploration Companies:

Landholder rights relate to the use of the surface of the land. However access to those mining rights often means infringing on the rights of the landholder. Therefore negotiation between the owner of the mining rights and the landholder rights takes place such that the infringement on the rights is appropriately compensated.²¹⁷

The PC's inquiry²¹⁸ also noted the disadvantages in farmer and oil and gas companies' negotiations in protecting prime agricultural land while coexisting with UG exploration and extraction:

²¹² Agricultural Competitiveness Taskforce, Parliament of Australia, *Agricultural Competitiveness Green Paper* (2014).

²¹³ Ibid, 21.

²¹⁴ Productivity Commission, *Inquiry into Mineral and Energy Resource Exploration*, Commonwealth of Australia, Canberra, 2013.

²¹⁵ Ibid, 130.

²¹⁶ APPEA, *Record Number of Land Agreements signed in Queensland* (2013) <http://www.appea.com.au/media_release/record-number-of-land-agreements-signed-between-gas-companies-and-queensland-farmers/>.

²¹⁷ AMEC, Submission No 34 to Productivity Commission, *Inquiry Into The Non-Financial Barriers To Mineral And Energy Resource Exploration*, March 2013, 2.

²¹⁸ Productivity Commission, above n 214, 132.

Most rural land holders are at some disadvantage in undertaking negotiations with explorers. There is an asymmetry of experience as most land holders will have little or no previous experience in negotiating access agreements and compensation—such negotiations will most likely be a ‘one-off’. There is also an asymmetry of information regarding the potential impact of the exploration activity. The land holder will have limited knowledge and experience from which to evaluate the impact of exploration activities on rural land. Further, there is an imbalance of power due to the involuntary nature of the negotiations. In most jurisdictions the legislative framework requires land holders to allow explorers to access their land, subject to the negotiated terms and conditions of the access agreement.²¹⁹

The *Agricultural Competitiveness White Paper*²²⁰ announced a two-year pilot program (2015–2016) and A\$13.8 million awarded to the Rural Industries Research and Development Corporation to work with other Research and Development Corporation’s to develop and deliver training and materials ‘to provide farmers with knowledge and materials on cooperatives, collective bargaining and innovative business models’.²²¹ The pilot program is focused on equalising bargaining power between farmers dealing with large processors, traders or retailers. This model offers opportunities to extend the benefits of collectivisation to agricultural landholders.

As previously stated, the test for the ACCC to object to a collective bargaining authorisation or notification application is found in the ‘public benefits test’:

If the ACCC is satisfied that any benefit to the public that has resulted or is likely to result or would result or be likely to result from the provision does not or would not outweigh the detriment to the public that has resulted or is likely to result or would result or be likely to result from the provision, the ACCC may give the applicant a written notice (the objection notice) stating that it is so satisfied.²²²

Public benefit is not defined in the *Competition and Consumer Act*, however, the ACCC has stated that the term should be given its widest possible meaning. In particular, it includes, ‘anything of value to the community generally, any contribution to the aims pursued by society including as one of its principal elements...the achievement of the economic goals of efficiency and progress’.²²³

²¹⁹ Ibid, 133.

²²⁰ Agricultural Competitiveness Taskforce, Parliament of Australia, *Agricultural Competitiveness White Paper* (2015).

²²¹ Ibid, 31.

²²² *Competition and Consumer Act 2010* (Cth) s 90.

²²³ Justice Robert French, ‘Authorisation and public benefit - playing with categories of meaningless reference?’ (2006) 24 *Federal Judicial Scholarship* 1, 3.

Consequently, the ACC model of collective bargaining may result in claims of subverting the public interest if financial benefits flowing to state governments from mining rents are diverted into compensation to farmers, rather than into social welfare provisioning. There is a case for the agricultural landholder community to be given special consideration given the statements of the Select Committee that ‘the lack of power and support landholders feel in relation to land access...indicates the overall level of complexity associated with land access involving unconventional gas mining’.²²⁴

Further, as previously stated, analysis of case law of ACCC agricultural collective bargaining authorisations reveals the ACCC’s analysis is based on a three-tiered framework. These conditions would have to be met before a collective bargaining application could be granted by the ACCC. It is likely a small collective bargaining group of agricultural landholders of 10–20 members, for example, the coming together of landowners in specific regions (e.g., the Chinchilla agricultural landholders), would not be contradictory to the ACCC requirement that the group hold a small market share without cartel or collective boycott activity and with voluntary membership.

However, it is noted a limitation to the collective bargaining vehicle is the lack of mandatory enforcement of negotiations and outcomes. A collective bargaining authorisation or notification does not force groups to come to an agreement, rather, it allows an opportunity to represent landholder interest in a coordinated and managed approach to empower and benefit potential negotiations between agricultural landholders and resource companies.²²⁵

Van Caenegem et al’s study focused on the characteristics that indicate success in collective bargaining vehicles for farmers in the context of retailer and processor negotiations. These characteristics are applicable across a range of agricultural negotiation contexts and the features of the agricultural sector remain the same. For example, Emery argues that interdependence, that is, cooperation and collaboration among groups of farmers, is essential for farmers to actually achieve independence from the structures of finance capital and ‘monopsony’ behaviour of large purchasers such as supermarkets: ‘Individualism promotes

²²⁴ Senate Select Committee on Unconventional Gas, Parliament of Australia, *Inquiry into Unconventional Gas Interim Report* (2016) 23.

²²⁵ ACCC, *Collective Bargaining and Boycotts* (2016) < <https://www.accc.gov.au/business/anti-competitive-behaviour/collective-bargaining-boycotts>>.

the pursuit of self-interest while mystifying collective interests, whereas actual independence requires demystification and the pursuit of collective interests’.²²⁶

Van Caenegem et al summarises the following elements as being key and unique to agricultural landholders and their ability to uptake collective bargaining:

- Notions of individualism among farmers are a recurring feature and have been identified across a number of studies and contexts, notably, farmer decision-making, natural resources management and climate adaptation. We can, thus, extrapolate that we might reasonably expect to find the same to be true in the area of collective bargaining.
- Farmers may be over-represented in a smaller number of ‘standalone’ personality types where there are striking similarities and multiple behavioural inhibitors to cooperative behaviour across these personality types.
- Trust, created through long association and the sharing of knowledge and resources (and the manner in which this occurs) is a feature of cooperative behaviours. Finding ways to increase social capital may be conducive to creating social norms where cooperative behaviours are acceptable.
- Information and available resources may not be enough to influence farmer decision-making. Alternative delivery mechanisms that are embedded in farmer communities may be key to influencing behavioural change.²²⁷

The following key elements are necessary to overcome limitations to collective bargaining and to ensure successful collective bargaining in agriculture:

- 1) strong social cohesion and trust within the group
- 2) information dissemination involving peak agricultural industry
- 3) providing training in leadership, bargaining and negotiation skills to agricultural landholders who will represent collective bargaining groups.²²⁸

Successful collective bargaining in agriculture to date has been led by peak organisations—including the Australian Dairy Farmers, Victorian Farmers Federation, Western Australian Broiler Grower Association, and Tasmanian Farmers and Graziers Association—to ensure strong social cohesion, trust among members, an avenue for information dissemination and

²²⁶ Steven Emery, ‘Independence and Individualism: Conflated values in farmer cooperation?’ (2015) 32(1) *Agriculture and Human Values* 47, 48.

²²⁷ Caenegem, et. al., above n 137, 21.

²²⁸ Ibid, 14.

leadership and negotiation resources. Therefore, combining agricultural bodies' expertise, such as within the ACC, with agricultural landholder local knowledge may enable collective bargaining to negotiate UGR CCAs.

Secondly, the characteristics of the group will most likely be small in size, as members of the collective bargaining group may most likely part of an agricultural peak body and will be representative of a certain region (e.g., Dalby).²²⁹ This will allow participants to increase their association through trust, norms, reciprocity, obligations, expectations, values and attitudes.²³⁰ According to Wade²³¹ and Ostrom,²³² locally devised and simple rules can be used to encourage 'institutional thickness' in collective action within a given territory linked with the combination of 'human capital' (knowledge resources), 'social capital' (trust, reciprocity and other social relations) and 'political capital' (capacity for collective action).

5.7 Conclusion: How will Landholder Input Create a more Effective Land Access Regime?

The stated intention of the LAC and MERCPA in Queensland is to balance competing interests in land access negotiations through best practice guidelines, notice provisions and appellate functions of the Land Court for 'good faith' negotiations between petroleum titleholders and owners and occupiers of private land. The provisions in the MERCPA do not appear to support greater transparency and certainty for landholders. While it purports to offer a centralised system of land access, the devil is in the details. For example, the provision relating to opt-out agreements and deferral agreements appears to support the primacy of the petroleum titleholder rather than acting to support landholders. The Government continues the rhetoric in support of balancing conflicting interest while simultaneously watering down legislation which offers the opportunity for grievances and landholders' challenges to the current regime. It has, in effect, moved the goalposts for landholders in favour of titleholders.

²²⁹ For example, the Darling Downs Cotton Growers Inc representing 110 cotton growers as at 2017 (member numbers fluctuate between 90-250 growers) of the 300-500 growers in the area. Further, the Queensland Farmers Federation represents the interests of 15 of Queensland's peak rural industry organisations, including Canegrowers, Growcom and Queensland Chicken Growers' Association, representing 13,00 primary producers in the State.

²³⁰ Vanni, above n 134, 24.

²³¹ Robert Wade, *Village republics: economics conditions for collective action in South India* (Cambridge University Press, 1988).

²³² Ostrom, above n 140.

There are limited opportunities for landholders to redress the current imbalance in the current regulatory system. The recent Unconventional Gas Senate Inquiry Interim Report has made far-reaching and broad recommendations to address the effects of the CSG industry and the current CCA regulations.²³³ Regulatory reviews have tended towards recommending a centralised system of land access arrangements. However, this has in part led to further uncertainties and duplication, adding more layers of regulation and regulatory burden for landholders and does not simplify the land access regulatory regime. There is mounting evidence from case law, regulatory reviews and criticism from bodies involved in the land access regime that it is flawed.

In comparison, British Columbia has sponsored transparency and a simple appellate and support regulatory regime for landholders throughout the process of entering into surface agreements. A comparative system is not available to a landholder in Queensland, as a landholder may only appeal to the general Land Court where there has been a 'material change in circumstances' to review compensation. Currently, the terms on which this is adjudicated is ill-defined and requires individual legal action by landholders who often do not have access to the time, resources and knowledge to mount a credible case.

A regulatory tool that may offer redress to the regulatory balance is collective bargaining. It is a flexible and transparent vehicle that has been used successfully in different contexts in the agricultural and UGR sectors. When monitored and regulated by the ACCC, collective bargaining could provide a vehicle for landholders to form a collaborative body and increase 'good faith' bargaining when reaching a CCA. In applying a principles-based regulatory approach, collective bargaining may be an effective transactional regulatory tool in negotiating land access agreements. The monitoring of collective bargaining may be conducted by a quasi-judicial administrative body, such as the SRB model in British Columbia, or an administrative body specifically tied to agriculture, such as the CCA, to ensure parties commit to collaborative and transparent negotiation of land access agreements. While collectivisation will require political support, the first step in moving towards collective bargaining in CCAs is to gain support and organisation via membership in agricultural communities in key UGR regions of Queensland.

²³³ Senate Select Committee on Unconventional Gas, Parliament of Australia, *Inquiry into Unconventional Gas Interim Report* (2016) 3.

CHAPTER 6: CONCLUSION

6.1 Introduction, Hypothesis and Research Questions

This thesis discusses how a resource-rich state like Queensland can meet the challenge of creating an effective regulatory regime balancing the commercial exploitation of UG activities on agricultural lands. The main focus of this thesis has been on how Queensland can use its legal framework in regulating land use and compensation agreements by utilising regulatory tools to encourage coexistence of the development of UGR where those resources impact on fertile agricultural land.

UGR occupies a unique role in the growth of the world's non-carbon energy market. Since the assent of the Paris Agreement,¹ the drive to meet sustainable energy goals has been solidified while creating an intense debate internationally and in individual nation states. UGR has been hailed as one solution to a non-carbon energy future in a 'Golden Age of Gas'² and countries including Australia and Canada have rushed to embrace this energy source, since it enables a transition from the burning of oil and coal to the generation of energy from carbon free sources.

Queensland has been enthusiastic in its development of CSG tenements across some of the State's most productive agricultural land in the Bowen Basin³ and Surat Basin⁴ regions. Queensland has chosen to support the development of UGR through a land use zoning and land access agreement system that encourages petroleum titleholders to develop UGR tenements and reap the economic rewards of the international export market. This is contrary

¹ United Nations Framework Convention on Climate Change, Adoption of the Paris Agreement, 21st Conference of the Parties, Paris: United Nations, U.N. Doc. A/CONF. 541/13 (2015). The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius.

² International Energy Agency, *Golden Rules for a Golden Age of Gas. World Energy Outlook Special Report on Gas* (2012)
<http://www.iea.org/publications/freepublications/publication/WEO_2012_Special_Report_Golden_Rules_for_a_Golden_Age_of_Gas.pdf>.

³ The Permian to Triassic Bowen is the original CSG exploration and extraction region of Queensland. The first commercial production began in the Dawson River CSG area near Moura in 1996 and in the Fairview CSG area near Injune in 1998. Queensland Department of Natural Resources and Mines, *Queensland's Petroleum and Coal Seam Gas 2015-2016* (2017)
<https://www.dnrm.qld.gov.au/__data/assets/pdf_file/0008/1237742/qld-petroleum-coal-seam-gas-2017.pdf>.

⁴ The Surat Basin became the focus for emerging CSG companies from the early 2000s onwards and spans an area from Kogan North to Dalby and Chinchilla. Queensland Department of Natural Resources and Mines, *Queensland's Petroleum and Coal Seam Gas 2015-2016* (2017)
<https://www.dnrm.qld.gov.au/__data/assets/pdf_file/0008/1237742/qld-petroleum-coal-seam-gas-2017.pdf>.

to the position of other states like Victoria, who have chosen to place a moratorium on the CSG industry based on public distaste for the perceived environmental impacts of hydraulic fracturing.

Queensland has become Australia's leading UGR state, legislating policies based on adaptive management, including the PGPSA, RPIA, MERCPA and LAC, which support the rapid expansion of CSG, despite public concern on the use and access to agricultural land.⁵ The rapid exploitation of the resource has created political, economic and social externalities. Of these externalities, the conflict between resource companies and landholder interests has assumed primacy and created the greatest regulatory challenge.

In seeking to solve the nexus between the economic benefits of UG exploitation and the cumulative impacts on agricultural landholders, successive Queensland administrations have sought to balance the needs of resource companies with its stated objectives to create a system of 'effective'⁶ regulation that balances the interests of both parties through 'coexistence and independent oversight' of the UGR sector.⁷ The introduction of the current petroleum regulatory regime in 2004, in the enactment of the PGPSA, the LAF introduced in 2010 and recently amended in 2014⁸ and MERCPA also enacted in 2014, represent the State's contemporary response to this conflict. Legislative reviews highlight the political and economic requirement for effective natural resource regulation to consider how the state will maximise the broader economic benefits of UGR while sponsoring regulatory frameworks which encourage coexistence with other sectors.⁹

The hypothesis examined in this thesis is that there are aspects of Queensland's current regulatory framework for UGR development that are ineffective in managing conflicting land interests in the extraction of UG and that a more effective regime could be identified. In testing this hypothesis, the thesis critically analysed the capacity of the current Queensland UGR land use and land access regulatory framework to manage conflict, utilising a

⁵ Department of Industry, Innovation and Science (Cth), Office of the Chief Economist, *Review of the Socioeconomic Impacts of Coal Seam Gas in Queensland* (Commonwealth of Australia, 2015) <<https://industry.gov.au/Office-of-the-Chief-Economist/Publications/Documents/coal-seam-gas/Socioeconomic-impacts-of-coal-seam-gas-in-Queensland.pdf>>.

⁶ Queensland Government, Department of Natural Resources and Mines, Queensland Gas Supply and Demand Action Plan, *Discussion Paper* (2016) <https://www.dnrm.qld.gov.au/__data/assets/pdf_file/0007/805552/gas-action-plan-5107-discussion-paper.pdf> 11.

⁷ Ibid.

⁸ In the enactment of the *Regional Planning Interests Act 2014* (Qld) and *Mineral and Energy Resources (Common Provisions) Act 2014* (Qld).

⁹ Queensland Competition Authority (Qld), *Final Report: Coal Seam Gas Review* (January 2014) <<http://www.qca.org.au/getattachment/aaaeab4b-519f-4a95-8a65-911bc46cc1d3/CSG-investigation.aspx>>.

comparative functional analysis. This thesis has analysed a number of resource functions including petroleum policy, regulatory legislative frameworks and tools, statutory reviews of land use zoning, compensation and land access arrangements, and case law testing cumulative impacts of UGR activities on agricultural land.

The thesis has not focused on a detailed evaluation of the environmental impacts of hydraulic fracturing or the cumulative impacts on soils, water and vegetation, as this has been the traditional topic of many scientific¹⁰ and regulatory studies of UGR.¹¹ Rather, this thesis focuses on the principles and policies relating to the overall framework of effective development and coexistence of Queensland's onshore CSG resources. In particular, this thesis focuses on the analysis of the land use, land access and compensation regimes which optimise the opportunity to find a resolution between the competing interests of resource producer and landholder.

In developing this analysis, there is a tacit acknowledgement that 'conflict' has been interpreted in a narrow legal sense. That is, the broader socio-political debate relating to the development of UGR and community opposition to the industry is outside the frame of reference for this thesis. Instead, the thesis has remained narrowly focused on the functional analysis of the legal frameworks which may or may not drive towards coexistence and the diminution of conflict between the two sectors.

The thesis hypothesis has raised five specific supplementary research sub-questions. Firstly, what is the land use conflict associated with UG extraction on agricultural land? Secondly, what is the current regulatory framework for the regulation of UG extraction in Queensland? Thirdly, are the current regulatory tools utilised by Queensland effective in managing

¹⁰ New South Wales Government, Chief Scientist and Engineer, *Final Report of the Independent Review of Coal Seam Gas Activities in NSW* (2014) <http://www.chiefscientist.nsw.gov.au/__data/assets/pdf_file/0005/56912/140930-CSG-Final-Report.pdf>; Cathryn Ryan, Daniel Alessi, Alireza Babaie Mahani, Aaron Cahill, John Cherry, David Eaton, Randal Evans, Naima Farah, Amélia Fernandes, Olenka Forde, Pauline Humez, Stefanie Kletke, Bethany Ladd, J-M Lemieux, Bernhard Mayer, K U Mayer, John Molson, Lucija Muehlenbachs, Ali Nowamooz, Beth Parker, 'Subsurface Impacts of Hydraulic Fracturing: Contamination, Seismic Sensitivity, and Groundwater Use and Demand Management' (Research Report, October 2015) <<http://www.cwn-rce.ca/assets/resources/pdf/Hydraulic-Fracturing-Research-Reports/Ryan-et-al-2015-CWN-Report-Subsurface-Impacts-of-Hydraulic-Fracturing.pdf>>.

¹¹ Keith B. Hall and Hannah J. Wiseman, *Hydraulic Fracturing: A Guide to Environmental and Real Property Issues* (American Bar Association, 2017); Hannah J. Wiseman and Francis Gardijan, 'Regulation of Shale Gas Development, Including Hydraulic Fracturing' (2011) 11 University of Tulsa Legal Studies Research Paper No. 11; Allan Ingleson and Tina Hunter, 'A Regulatory Comparison of Hydraulic Fracturing Fluid Disclosure Regimes in the United States, Canada, and Australia' (2014) 54 (2) *Natural Resources Journal* 217.

conflicting land interests in the development of UGR? Fourthly, are there alternative regulatory tools effective in managing these conflicts of interest? Finally, if there are more effective regulatory tools how could they be applied to the Queensland context?

This chapter presents a summary of the research findings. In addressing the research questions, this thesis critically analysed the capacity of the Queensland's current regulatory framework for UGR development on agricultural land and considered specific instances of regulatory gaps, omissions and regulatory complexity in the application of the State's regulatory tools. The regulatory tools analysed are the role of the state, UGR policy, land use regulatory legislative framework, relevant administrative bodies and regulation of land access and landholder compensation agreements. This thesis has considered whether these tools encourage effective regulation in promoting coexistence of land interests in the extraction of UG in Queensland and compares them with the frameworks and regulatory tools employed by British Columbia to manage UGR and agricultural land conflicts. Using a functional legal methodology, this thesis utilised an analysis of regulatory frameworks in both jurisdictions to not only analyse the current capacity of Queensland's regulatory system to manage conflict, but also to offer recommendations to change the Queensland's system of regulation to engender greater coexistence between UGR and agricultural land.

6.2 Principles of Unconventional Gas Regulation

Chapter 2 analysed the theoretical principles under the broad moniker of 'effective' regulation. This analysis demonstrated that the State interprets regulatory 'effectiveness' in the administration of petroleum legislation by adopting one of two differing policy approaches, rule-based or principles-based. The analysis determined that rule-based regulation is rigid, prescriptive and favours compliance and enforcement against a complex welter of rules that are continually reinforced and amended to meet new conditions. In this paradigm, compliance tends towards complexity and obfuscation as new rules are added to existing rules to manage emerging conditions in the resource industry, rather than a re-examination of the purpose and intent of the regulatory system.

This provides a context to Queensland regulation which, since the 1990s, has moved swiftly to encourage the exploration and extraction of UGR as a key political and economic imperative. The desire to exploit the petroleum resources has created conflicting priorities

with agricultural landowners and this conflict has been managed via a rule-based prescriptive approach.

In Chapter 2, two approaches to the adoption of adaptive management as a regulatory tool were examined. To be successful, adaptive management must be ‘active’ in managing conflicting agendas by instituting clear measures and objectives, rather than serving to create excessive regulation ‘burdens’ and ‘gaps’. Queensland’s current regulatory approach is classified as ‘passive’ adaptive management due to its complex, ambiguous and inflexible UGR regulatory framework.

The potential for ongoing management conflict is probed in an analysis of the externalities which emerge from a rule-based prescriptive approach, namely, ‘regulatory failure’, that is, ambiguity, poor regulatory tool choice, conflict and confusion (among stakeholders) and inadequate consultation which follows from the adoption of this paradigm. This serves to establish the premise that, in the absence of effective regulatory frameworks capable of managing conflict, resource development becomes uncontrolled and purely market-led which confines the role of the state to a monitoring and compliance body rather than the broader definition of the state’s role as arbiter of the ‘public interest’.

The analysis of effective regulatory principles in both Queensland and British Columbia concluded that to effectively regulate and develop its UGR resources, Queensland requires a substantial re-examination of its UGR regulatory framework. Rather than regulation being based solely on passive adaptive management and commercial export of LNG, Queensland’s regulatory framework needs to refocus the development of its UGR resources in a collaborative and principles-based approach for the benefit of both the UGR and agricultural sectors.

6.3 Managing Identified Conflicting Interests

Chapter 3 considers the UG policy of Queensland and conflicts with UG extraction on agricultural land. This serves to determine whether Queensland effectively manages multiple interests in the development of UG. This analysis demonstrated that UG policy is crucial in guiding the regulation of UGR, as the framework to determine the state policy on resource development.

An analysis of Queensland's policy framework demonstrated that the contemporary national political thrust towards greater exploitation of UG for export purposes has created pressure on Queensland to produce ever greater quantities of the resource. One consequence of this drive is a lag in regulatory frameworks to anticipate and manage the underlying conflict with other sectors, particularly agricultural landholders. Only Queensland is producing commercial quantities of UGR which provides a political and policy context in which UGR extraction is the key political imperative and which may obscure the requirement to control and manage the impact of UGR on other sectors.

There are similar pressures in British Columbia which is sufficiently similar in political, economic and legal systems to provide a useful comparison to Queensland's chosen approach to exploiting UGR. In British Columbia, despite the growing interest in UGR extraction, there are established policy guidelines to manage conflicting interests, both agricultural and resource based, within a broader policy framework that does not privilege one sector over another. This chapter notes, however, that British Columbia is a model rather than an ideal and complete solution for the deficiencies of the Queensland regulatory system. It is perhaps self-evident that no one jurisdiction can be transplanted into another. It is important, therefore, to acknowledge the historical, contextual and cultural differences between jurisdiction and policy objectives.

To generate options of comparison for the coexistence of Queensland's UGR, the British Columbia UGR policy framework, which focuses on effective regulation of resources while maintaining a productive agricultural land base, was analysed. British Columbia's regulation has proceeded from the historical premise that the agricultural industry and landholders are valuable to the State and it is in the public interest to maintain agricultural lands as a State asset. The ALR is the primary administration and judicial lynchpin to assess all other activities and land uses that might impact on valuable agricultural land.

The commonality of internal legal systems of Australia and Canada provides the opportunity to compare and contrast the intent and effects of policy development in Queensland's and British Columbia's respective UGR regimes. The analysis of the UGR policies concluded that to create coexistence of its UGR and agricultural resources, Queensland requires a substantial re-examination of its petroleum policy framework and administrative bodies.

6.4 Land Use Regulation

Chapter 4 examines Queensland's land use regulatory regime permitting resource activities in areas of regional interest. This chapter analysed differing models of land use zoning approvals for petroleum activities and corresponding oversight administrative bodies to achieve overarching policy objectives of the State. Specifically, Queensland's new RPI regime provides an approvals process for UGR activities on PAAs to manage land use interests and create coexistence. The RPIA regulatory framework provides an important land use tool permitting UGR activities in agricultural areas once an approval is given by the DILGP or has the landholders' consent and is 'not likely to have a significant' impact on the agricultural area.

Land use zoning tools in combination with an administrative regulatory body, such as the ALC model in British Columbia, have been demonstrated as being effective in creating favourable conditions for coexistence by clearly stipulating the principles and regulatory conditions for UGR activities on agricultural land. The ALC also ensures that UGR companies operate within a framework with regulatory oversight and a quasi-judicial tribunal framework that allows the State to fulfil its goal of creating value in the UGR sector and enabling UGR titleholders to maximise their return. Queensland's land use regulation does not have a similar model of mandatory collaboration and regulatory powers between the three government departments and three administrative authorities with jurisdiction over UGR activities operating on agricultural lands. In this situation, the potential for overlap and regulatory gaps is magnified and there is evidence to suggest that this has and is occurring in Queensland. The GC is the State's response to provide a single body to manage landholder interests and complaints, however, the 2016 review of this body demonstrated that the Commission is not adequately filling this independent facilitative role.

The experience of the ALR and OGC in British Columbia demonstrates that independent regulatory bodies, with appellate avenues for landholders, and a principles-based regulatory legislative framework contributes to the effective regulation of UGR, enabling administrative bodies to have a wide discretionary role to implement the State's UGR policies to maximise the value of UGR resource development. It also enables administrative authorities to actively participate in managing UGR activities to encourage coexistence and supervise the conditions of production and resource development, to ensure that the activities of UGR titleholders are aligned with State interests.

The Australian PC has demonstrated that overlapping regulatory structures creates regulatory failure, gaps and burdens and thus inhibits effective UGR development. The current administrative authority structure fails to encourage principles-based regulation and coexistence of Queensland's UGR resources on PAAs. This is because the regulation and oversight of UGR is undertaken by three different State Government departments, under three administrative oversight bodies, with no clear objective or collaboration between these entities focused on implementing coexistence objectives.

An analysis of the single UGR authority in British Columbia, the OGC, demonstrates that the creation of such a regulatory administrative authority is capable of securing legal and administrative competence to implement the objective of principles-based effective regulation of UGR development for the benefit of British Columbia and its citizens. The ALC, as the single agricultural land protection regulatory administrative authority and its MOU with the OGC, demonstrates the creation of such an arrangement which serves to provide the forum for collaboration and coexistence of UGR development in agricultural land zones.

6.5 Regulating Land Access and Compensation

In Chapter 5, the negotiation and award of land access agreements assessed whether the allocation of land access agreements in Queensland encourages effective regulation to manage competing interests. The issues of UG exploitation on agricultural land raised several issues specifically related to mandatory land access agreements that must be negotiated before a petroleum titleholder commences advanced activities. The analysis of the land access system of compensation agreements demonstrated that the regulation of access to land for the development of UGR and the negotiation and agreement process for landholders is appropriate in states where the primary objective of the state is to balance the interest of titleholders and landholders.

In the Queensland regulatory context, the negotiation of CCAs between titleholders and landholders is contained in the LAC which recommends the agreement is negotiated in 'good faith'. The chapter examined the criteria of good faith as the measure to achieve the obligation between parties to 'use all reasonable endeavours to negotiate'. It was noted in this chapter that Queensland has not sufficiently defined key terms including 'good faith' and 'reasonable endeavours' to provide a clear regulatory outcome against which case law can operate. Instead, judicial findings appear to favour resource companies and provide limited support

and advice for individual landholders to mount credible cases to ameliorate the effects of UGR exploration on their lands. The difficulty in interpreting unsubstantiated and general provisions has created complexity in the regulatory framework which permits UGR activities access to agricultural land. This has created unease and confusion among both titleholders and landholders and the State Government has been slow to step in where information asymmetries between the parties create negative externalities arising from land access agreements.

A regulatory framework is required to allocate the costs and benefits of an economic sector in the most appropriate ways and to manage unacceptable risks to either party. The framework should also take account information asymmetries, which are particularly pertinent between landholders and titleholders in the CSG context. In these circumstances, the former may lack adequate information about the impacts of exploration, drilling and extraction, making it difficult to achieve good faith in negotiations of land access agreements.

In undertaking this analysis, Chapter 5 examined other regulatory options available to Queensland to redress the balance between conflicting interests. A key recommendation is collective bargaining as a regulatory tool to promote effective methods of coexistence and agreement-making between UGR titleholders and landholders to maximise the opportunities for trust and build productive working relationships.

6.6 A New Way Forward for Queensland Landholders

The recent Unconventional Gas Senate Inquiry Interim Report has made a far-reaching, broad and highly critical analysis of the effects of the CSG industry and the current CCA regulations.¹² Providing regulation for collective bargaining within the UGR regulatory framework may improve communication and strategic landholder engagement while offering a more streamlined and accessible process to manage land access compensation to deliver long-term improvements and coexistence with the onshore UG industry. These regulatory aims would support the current aim of the GCA to facilitate ‘better relationships between landholders, regional communities and the onshore gas industry’¹³ and supports the principle of coexistence between interests.

¹² Senate Select Committee on Unconventional Gas, Parliament of Australia, *Inquiry into Unconventional Gas Interim Report* (2016) 3.

¹³ *Gasfields Commission Act 2014* (Qld) s 7(a).

In Chapter 5, the use of collective bargaining in the US was offered as a model for coalitions of landholders to negotiate terms collectively with oil and gas companies. Although the US has a fundamentally different legal system, the experience of landholder coalitions is instructive in providing options for Queensland to consider. The information-sharing reciprocity between coalition members and the opportunity to work towards a collective goal may offer greater opportunities to work towards good faith negotiations. This is in stark contrast to the current situation where landholders must work as individuals to comprehend and interact with complex legal provisions, with limited support from State bodies.

It is likely collective bargaining would be embraced by the UG and agricultural sector, as both industries have previously utilised collective bargaining mechanisms when negotiating long-term contracts. Further, the monitoring of collective bargaining by a quasi-judicial body such as the GC supported by the ACCC within the existing CCA may create a regulatory tool which satisfies Queensland's UGR policy aim of coexistence of multiple interests for the benefit of its citizens. However, it must be noted that collective bargaining does not represent a complete solution to Queensland's current regulatory rule-based regulatory system. Instead, it offers one option for the Queensland Government to consider in addressing the increasingly strident calls to 'rebalance' the interests of landholders, particularly in relation to land access of agricultural land.

6.7 Conclusion

This thesis has demonstrated there are aspects of Queensland's UGR regulatory framework that fail to encourage effective coexistence of competing land interests in the extraction of UG. By critically analysing a number of petroleum regulatory functions and tools, this thesis demonstrates that in the areas of petroleum policy, legislative framework, land use zoning and land access agreements, Queensland's UGR regulatory framework is not effective in managing multiple interests to create effective coexistence throughout the development of Queensland's UGRs.

By including an analysis of alternative UGR regulatory frameworks, particularly the regulatory framework of British Columbia, this thesis has demonstrated that there is a more effective way Queensland can regulate the development of its UGRs to encourage coexistence. The comparative functional analysis of this thesis has demonstrated that the approach to UGR development on agricultural lands in British Columbia has enabled a

balance between the protection of agricultural land and the continued development of a globally competitive UGR sector. This approach to UGR exploitation is premised on a collaborative approach to the effective development of UGR, accomplished through an integrated principles-based approach to regulation.

Moving towards a broader acceptance that the regulatory structure of Queensland is flawed and will likely require substantial re-evaluations to move towards a principles-based regulatory approach, this thesis looks broadly at similar Commonwealth jurisdictions where there are alternative regulatory structures which provide functional examples of setting the conditions for coexistence of both UGR and agriculture for the benefit of the state's citizens. The use of alternative regulatory tools, such as collective bargaining, to effectively negotiate and execute land access agreements provides an example of how regulation may encourage collaboration among landholders in finding sustainable, transparent and equitable arrangements to manage coexistence of UGR activities. Further, the research and analysis forming this thesis demonstrates that it is possible to implement a number of possible amendments and changes in Queensland's UGR regulatory framework to encourage greater coexistence in the extraction of UG and 'strike a better balance between the interests of landholders and the resources sector'.¹⁴

¹⁴ Queensland Government, *Summary of the Mineral and Energy Resources (Common Provisions) Bill* (2014) <<http://www.parliament.qld.gov.au/documents/committees/AREC/2014/24-MinEngResBill/Cor-25Jun2014-DNRMWrittenBriefing.pdf>> 3.

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